

FEBRUARY 1926 -- No. 241

Monthly

A Reference for Buyers

HITCHCOCK'S  
MACHINE  
TOOL  
BLUE BOOK

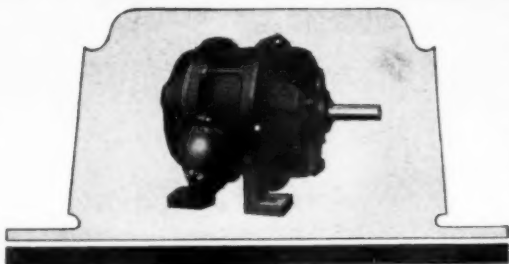
25,000

Controlled Circulation

Published By

HITCHCOCK TOOL WORKING CO.

508 So. DEARBORN ST.  
CHICAGO



## You get these advantages with Reliance Ball- and Roller-Bearing Motors

Elimination of oil with greater cleanliness  
and fewer repairs.

Less inspection and lower lubricant cost.

Uniform air gaps constantly maintained.

Easier starting and better efficiency.

*Our new Bulletin No. 4000 gives all the details.*

**Reliance Electric & Engineering Co.**  
1050 Ivanhoe Road, Cleveland, Ohio

### *Branches:*

Boston  
Cincinnati

New York  
Detroit

Philadelphia  
Chicago

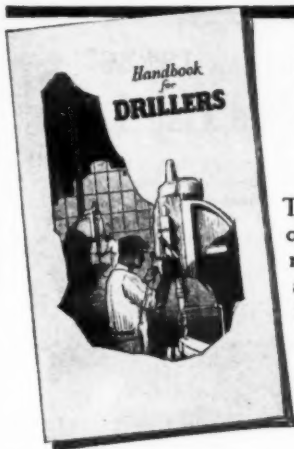
Pittsburgh  
Birmingham, Ala.

*We specialize in motors, sizes 1/2 to 250 h. p. constant and adjustable speed  
D. C.; squirrel cage and slip ring A. C.*

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# RELIANCE <sup>A.C.</sup><sub>D.C.</sub> MOTORS

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## The A-B-C of Good Drilling Practice!

Thousands of copies of this booklet are mailed out annually all over the world, to men and boys interested in knowing the "why" as well as the "how" of twist drills and drilling.

May we send you a copy? It costs you nothing but a postcard and puts you under no obligation.

*Just ask for the "Handbook for Drillers."*

The **CLEVELAND** **TWIST DRILL COMPANY**  
CLEVELAND NEW YORK CHICAGO LONDON

TRADE MARK REG. U. S. PAT. OFF. AND FOREIGN COUNTRIES

### *Manufacturers, also, of*

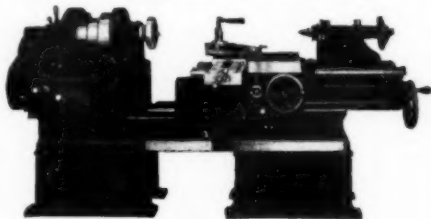
Carbon and High Speed Drills for every purpose; "Mezzo" Super-Carbon Drills; Hand, Jobbers' and Shell Reamers; "Peerless" High Speed Reamers; "Paradox" Adjustable Reamers; "Quick-Set" Reamers; Chucking Reamers for Turret Lathes; Counterbores; Countersinks; Sockets; End Mills; and the "Ezy-Out" Screw Extractors.

# CLE♦FORGE

TRADE MARK REG. U. S. PAT. OFF.

## **Rahn-Larmon 18"/36" Extension Bed Gap Lathe**

A lathe of so wide a range that it reduces to a minimum the amount of equipment required, as well as operating time, in jobbing shops, railroad shops, or wherever there is a large variety of work to be done.



### ***The Lathe with the Wide Range***

There is hardly a reasonable limit to the work that can be done on this modern Extension Gap Lathe. It enables the operator at all times to have a lathe ready for any job, without tearing down and setting up.

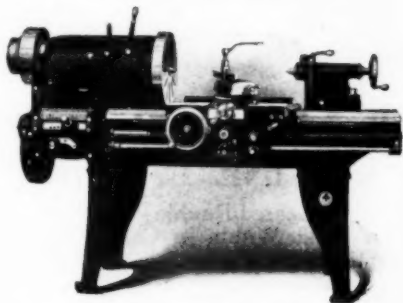
And not only is it versatile, but it is a real lathe on every job. It is so sturdily constructed that it absorbs the vibrations of the heaviest cuts. And as for convenience—that's its strong point. Arranged for belt or a. c. or d. c. motor drive. Also made in 22"/40" and 28"/50" sizes.

*Get in touch with us. Find out what this lathe will do for you and how it saves costs. Glad to go into the matter with you fully, without obligating you in any way.*

**The Rahn-Larmon Company**  
Cincinnati, Ohio



# **LeBlond Heavy Duty LATHES**



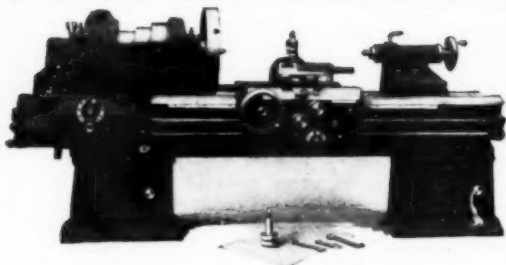
They embody the very latest developments and refinements in engine lathe design. While essentially heavy duty machines they embody operating convenience with accuracy that adapt them to the most exacting tool room requirements. They are built in a complete line of sizes, 13" to 36" swings with either cone driven or geared headstock, and are offered with the usual attachments.

*Write for our literature*

**THE R. K. LeBLOND MACHINE  
TOOL COMPANY**

**CINCINNATI,**

**OHIO**



## **20" Instantaneous Change Gear ENGINE LATHE**

Double Back Geared Double Plate Apron. Any Pitch Or Feed Within Its Capacity Instantly Obtainable Without Removal Of A Gear.

Tailstock of the cutaway type, which permits swivelling of compound rest parallel with the shears.

Double Plate Apron with the mechanism so arranged that longitudinal and cross feeds cannot be engaged when screw-cutting.

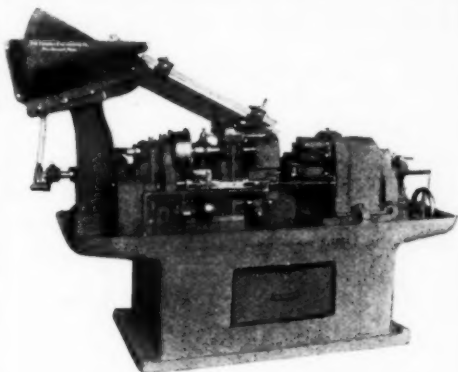
Gear Box entirely enclosed, with steel gears throughout.

*Send for full particulars—sizes 18" to 36"*

**THE**  
**Boye & Emmes Machine Tool Co.**  
2245 Spring Grove Ave.  
CINCINNATI, OHIO

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## **"This is Production"**

**2800 Pointed and Threaded  
1/2" Bolts Per Hour—  
One Operator!**

**WHEN USING**

**Four Economy Automatic Combined  
Pointing and Threading Machines.**

**Capacity 1/4"x1" to 3/4"x5 1/2"  
Bolt and Cap Screws.**

**The Economy Engineering Company  
WILLOUGHBY, OHIO**

# Drill and Price—*both right*

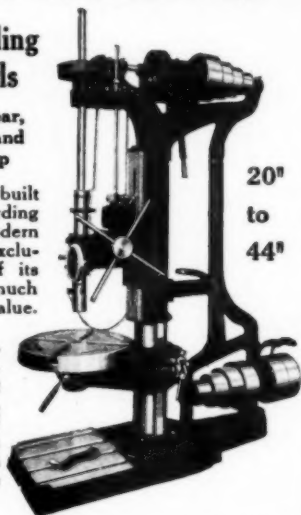
The "Aurora" Means Maximum Output

## Aurora Sliding Head Drills

With Back Gear,  
Geared Feed and  
Automatic Stop

The "Aurora" is built throughout according to the best modern practice, with exclusive features of its own which add much to its practical value.

The ratio of gearing insures unusual power at the drill point. The foolproof table prevents a careless workman from spoiling the work.



Other features are enclosed positive gears, automatic release worm wheel and patented tapping attachment. Made in sizes 20, 21, 22, 24, 26, 28, 32, 36, 40 and 44-inch. Belt or motor drive.

*Yes, it is right in both quality and price.  
May we send description and bid on your needs?*

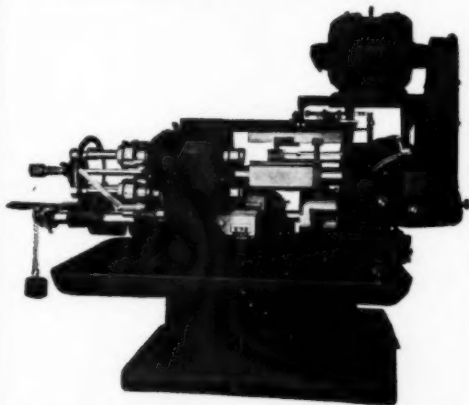
## The Aurora Tool Works

DIVISION THE OESTERLEIN MACHINE CO.

3303 Colerain Ave.,

Cincinnati, Ohio

## **It Pays to Know What the Gridley Can Do**



Many are the concerns, using parts from bar stock, that have saved thousands of dollars a year through investing a few thousands in Model G Gridley Multiple Spindle Automatic Screw Machines.

We are not asking you to buy. We want you only to find out definitely what the Gridley can do for you. Send B/P or Samples of your bar stock parts for definite production figures—no obligation whatsoever.

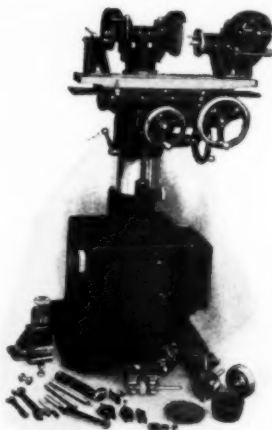
Write Dept. C. S.

**The National Acme Co.**  
Cleveland, Ohio

New York

Detroit

Chicago



Motor Driven No. 1 Universal Tool Grinder

## **Grand Rapids Universal Cutter and Tool Grinder**

**With Self-Contained Motor Drive,  
Eliminating All Overhead Work.**

An ideal machine for the shop using cutters and reamers, for whom our larger machines would be an extravagance.

Any work within the capacity of the machine can be handled with maximum convenience.

*BULLETIN ON REQUEST*

**Gallmeyer & Livingston Company**

342 Straight Ave., S. W.,

GRAND RAPIDS, MICHIGAN, U. S. A.

# Cutter and Tool Grinders

For All Classes of Work

No. 12  
Cutter and Tool  
Grinder



The Nos. 10, 11 and 12 give a range of sizes that will take care of any kind of cutter and tool work as well as light cylindrical grinding.

*Let us recommend the proper sizes for your work*

**LANDIS TOOL COMPANY**  
Waynesboro, Pa.

New York Office: 30 Church Street    Detroit Office: 5928 Second Blvd.  
Chicago Office: 618 W. Washington Blvd.

**FOOTBURT**



## **A Single Spindle Footburt Sipp Sensitive Drill**

**Made in three  
sizes of single  
and multiple  
spindle models**

### **More holes with this machine**

**Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.**

*Write for No. 650 Folders*

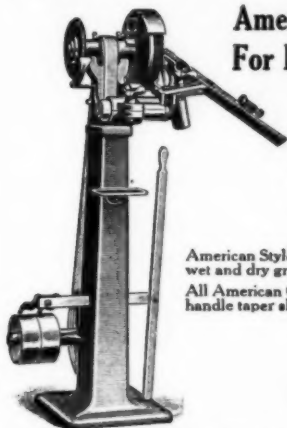
**The Foote-Burt Company, Cleveland, O.**

**FOOTBURT**



# La Salle Grinders

**American Style C T A  
For Dry Grinding Only**



Unexcelled as a dry grinder for twist drills. Extra large drill holder has capacity from 1" to 3½".

American Style W T A is arranged for both wet and dry grinding.

All American Grinders are now equipped to handle taper shank drills.

## **No. 1 Plain and Surface Grinder**

(Micrometer Adjustment)

Grinding wheels.....	8"x1"
Between wheels.....	15"
Height to spindle center.....	40"
Table surface.....	8"x14"

Has vertical travel of 12" on guides, ¾" by micrometer, and may be raised to within 2" of spindle center. Wheel grinds to center of a surface 9" wide.



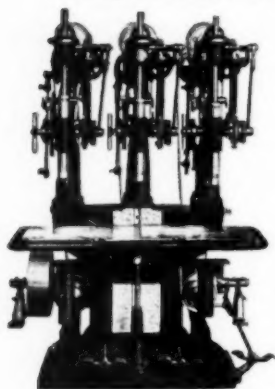
*Let us know your grinding requirements*

## **LaSalle Tool Company**

LaSalle, Illinois, U. S. A.

# Superior Conveniences —

*Always Means Greater Economy*



Rockford  
Automatic  
Gang  
Drilling  
Machine  
has such  
Conveniences

## **Built with 2, 3, 4 and 6 Spindles—Box Column Type**

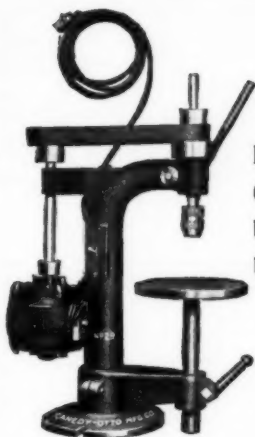
**Superior Equipment** pays because it either increases the output, or improves the quality of the work, or both. The Rockford has accomplished both in many shops, and very likely can do so in yours. We invite you to write us about your drilling requirements.

**Automatic Return**—When each spindle has completed its operation it automatically returns to its highest position, where it remains until the starting lever is tripped, when it immediately drops to position above the work.

**By Removal** of the stop pin in the cam, the spindle will immediately return to lowest position above work, and when tripped by automatic stop, will return to highest position and immediately drop again to work, repeating the movement automatically until the power is shut off. The spindle can be pulled ahead of the feed while in operation, a great advantage in drilling through a cored piece, piping or similar work.

*A postal brings the Circular. Let's hear from you.*

**Rockford Drilling Machine Co.**  
**Rockford, Illinois**



Drills to the center of a 10" circle.

Capacity,  $\frac{3}{8}$ " diameter.

Up and down run of spindle,  $2\frac{1}{2}$ ".

Up and down run of table, 7".

## Another Original Canedy-Otto Feature

That of first offering an electric bench drill completely equipped and ready for the job, the improved design eliminating the use of all gears and placing the cone pulley in exact alignment, enabling the belt to be run at its maximum speed.

It also eliminates all twists and turns of the belt, meaning both a saving of belts and time, giving a greater speed of spindle, a feature of great advantage when using drill for small diameter.

Regular equipment consists of vertical type ball-bearing motor, toggle type switch, extension cord, socket, belting and chuck.

### Canedy-Otto Manufacturing Company

Main Offices and Factory—Chicago Heights, Illinois

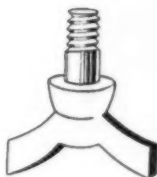
New York Branch  
407 Broome St.

Complete stock  
carried at branches

San Francisco Branch  
955 Folsom St.

# Threading 1200 pieces per Hour

These brass wing  
screws shown are  
being threaded on  
our



## Standard High Speed Tapping Machine

*Let us show you what can  
be done on your work*

**Leland-Gifford Co.**

Worcester, Mass.,

U. S. A.

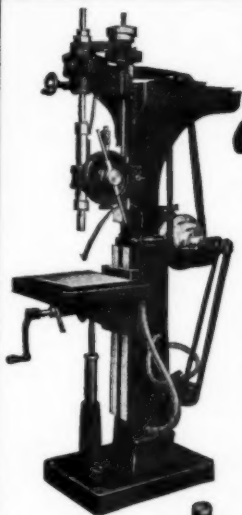


*Branch Offices:*

BOSTON  
NEW YORK

CLEVELAND  
DETROIT

CHICAGO  
ROCHESTER



# DO YOU KNOW THE *Avey-matic*

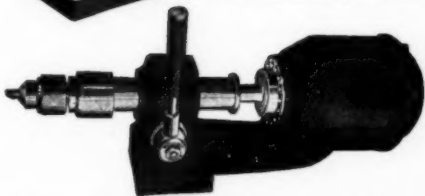
can be operated

**FULL AUTOMATIC  
SEMI AUTOMATIC  
or HAND FEED ?**

In the full automatic all movements of the spindle are continuous, operator only changing the work.

In the semi-automatic, the feed trips, returns the spindle but the feed is re-engaged by hand.

The feed can always be disengaged at any point of the stroke or advanced ahead of the feed by means of the hand lever.



## **Three Sizes of Motor Drilling Units**

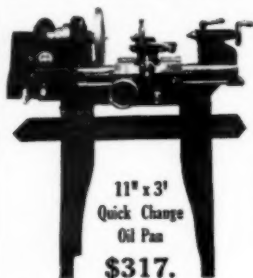
**CAPACITIES  $\frac{3}{8}$ " ,  $\frac{1}{2}$ " ,  $\frac{3}{4}$ " in C. I.**

Can be attached to tables of regular AVEY machines for side hole drilling while regular operation is being performed. - - - Can be mounted in any position.

**GET OUR CATALOG OF LATEST DRILLING PRACTICE**

**THE AVEY DRILLING MACHINE CO., - CINCINNATI**

# Monarch Jr. Lathes



11" x 3"  
Quick Change  
Oil Pan

**\$317.**

are the smallest members of the Monarch lathe family. Yet they are the "biggest little lathes" built.

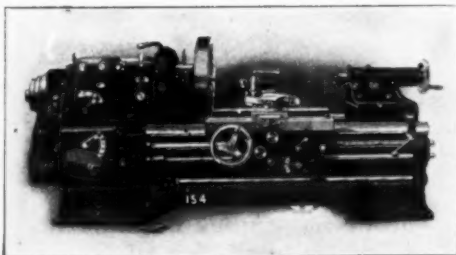
The Monarch line of lathes includes all sizes and types from the little 9-inch Junior lathe to the big, massive 30-in. lathe. In this line there is a lathe to fill your requirements at the price you want to pay.

*Send for Catalog*

**The Monarch Machine Tool Co.**

206 Oak Street, Sidney, Ohio

# CINCINNATI LATHES



are supplied with either standard or special tools and fixtures to handle your jobs most economically. If you desire to avoid repair bills and obtain longest satisfactory service, our catalog and prices will interest you. Furnished in sizes 16" to 30" inclusive, Cone Type or Geared Head. Our experience of over 20 years' specialization always at your service.

**THE CINCINNATI LATHE & TOOL CO.**  
3207-3211 North St., Oakley, Cincinnati, O.

# The "Artisan" Gap-Lathe—

"The Small Lathe with the BIG PUNCH"

*IS, WITHOUT QUESTION*

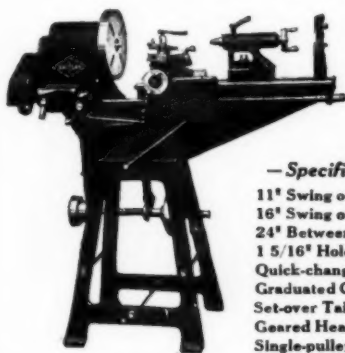
Today's greatest value in Small Lathes

**Powerful—**

**Accurate—**

**Compact—**

Priced more than \$100.00 below *any*  
Lathe of equal capacity.



## — Specifications —

11" Swing over Bed  
16" Swing over Gap  
24" Between Centers  
1 5/16" Hole thru Spindle  
Quick-change Gears  
Graduated Compound  
Set-over Tailstock  
Geared Head  
Single-pulley Drive

**Artisan Manufacturing Company**

Station "N"— Cincinnati, Ohio



*Write for details  
on our new*

**Gold Seal Lathes**

***Time  
tests  
all  
things***

**We have  
built good  
value  
LATHES  
for  
40 years.**

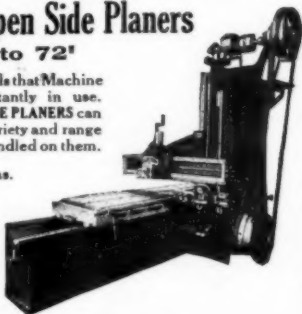
**The Sebastian Lathe Company**  
1000 Culvert St., Cincinnati, O., U. S. A.

## **Cleveland Open Side Planers** **26' to 72'**

Profit making demands that Machine Tools be kept constantly in use. CLEVELAND OPEN SIDE PLANERS can do this, due to the variety and range of work that can be handled on them.

Over 1060 installations.

Power Rapid Traverse;  
Aluminum Drive Pulleys;  
Counterbalanced Side Heads; Box Tables; all steel Gears; self oiling Bushings throughout the Drive.



*Send for descriptive circular*

**The Cleveland Planer Co.,** 3148 Superior Avenue,  
CLEVELAND, OHIO  
*Established in 1900*





## The Most Economical Shaping and Slotting Within Capacities Shown

7 in.  
Shaper  
Stroke



3½ in.  
Slotter  
Stroke

### The Rhodes Shaper and Slotter

is the most economical, because (1) being small, its price is low; and (2) because it is particularly adapted to small work, which of course it handles with greatest facility. It is high-grade throughout. Furnished separate in floor and bench type, and in combination in floor type only.

*Ask your dealer or write for  
CATALOG H22*

**The Rhodes Mfg. Company**  
984 Park Road,                      Hartford, Conn.

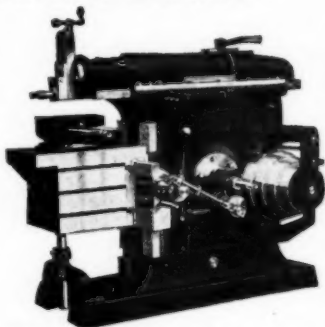
**SHAPERS—RHODES—SLOTTERS**

# SHAPERS

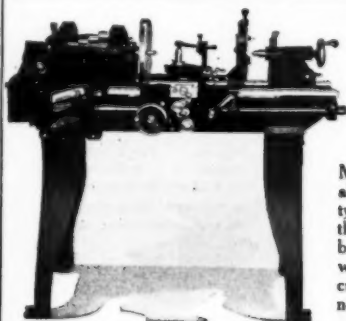
12", 14", 16"  
Plain Crank,  
16", 20", 25"  
B. G. Crank,  
either Cone  
Driven or  
through Speed  
Box.

Belt Shifter  
Regular Equip-  
ment All Cone  
Driven Shapers.

32" Back Gear-  
ed Crank, Sin-  
gle Pulley  
Drive.



**The Smith & Mills Co., Cincinnati, O., U.S.A.**



## Another Sidney Lathe

Our 11" x 4'  
Medium Pattern,  
all geared head  
type. It is up to  
the minute with  
built-in features  
which insure ac-  
curacy and eco-  
nomical service.

Write for catalog and prices on the complete  
line of Sidney Lathes. Address Dept. 1801

**The Sidney Machine Tool Co.**  
Sidney, Ohio





*The*  
**"RAREFIED"  
Dust Collector**

**Does the Most  
Thorough Work**

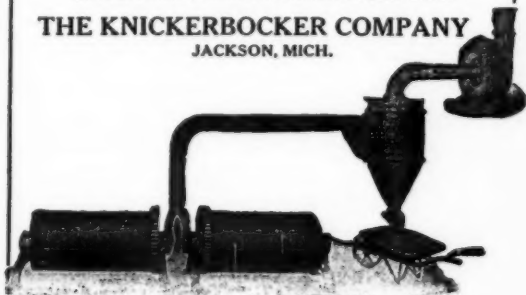
**Knickerbocker Says:** The "Rarefied" Dust Collector goes after the dust and gathers up practically every bit of it! Keeps your shop as spick-and-span as a New England kitchen.

**It is Successful** with all kinds of dust—from emery wheels, sand blasts, tumbling mills, etc. No matter how heavy, gritty or cutting the dust, it does better work at *less cost* than other collectors.

**There's No Abrasion** of fan parts, and practically no wear from internal friction, as the dust is collected and automatically discharged before the air reaches the fan.

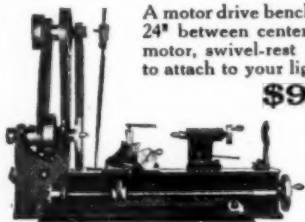
*Some plants are now using more than 25 of these efficient Collectors. Glad to mail complete details, or make an estimate on your work.*

**THE KNICKERBOCKER COMPANY**  
JACKSON, MICH.



## Just-Rite Lathes

Made in Sizes from 10-in. to 20-in.



A motor drive bench lathe, 10" swing, 24" between centers, complete with motor, swivel-rest and pan, ready to attach to your light socket.

**\$98**

**JUST-RITE**  
for turning,  
boring, mill-  
ing and drill-  
ing (not screw  
cutting).

Order one by express. Weight, 230 lbs.

**A. V. Carroll Machine Tool Co.,** Norwood,  
Cincinnati, O.

## Draw Back Chucks or Thrust Collets

*You can get them from*

**HARDINGE BROTHERS, Inc.**

**4149 Ravenswood Ave., CHICAGO, ILL.**

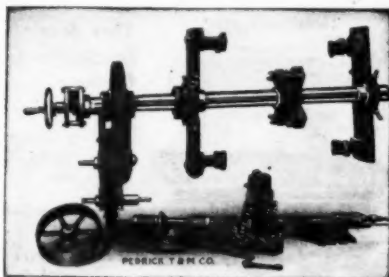
Bring your collet troubles to us; we have been specialists in this line for thirty years.

**The name "HARDINGE" on  
the article is your guarantee**

**HARDINGE BROTHERS, Inc.**

**4149 Ravenswood Ave., CHICAGO, ILL.**

# Pedrick Portable Tools



## Portable Cylinder Boring Bars

For re boring in position locomotive cylinders and piston valves, cylinders of stationary engines, steam hammers, air compressors, and a wide range of other work. Often it finishes a job before it could be gotten into the shop, saving time, expense and costly delays. Its saving on work that is difficult to move is out of all proportion to its moderate cost.

As for durability, we doubt if you can wear out a Pedrick built bar. Many machines we made 25 years ago are still in use.

We also build Floor Type Boring Machines, Crank Pin Turning Machines, Pipe Benders, Portable Milling Machines, etc.

*Write for the Catalog today*

**Pedrick Tool & Machine Co.**

3644 N. Lawrence St., Philadelphia, Pa.



Threading Tool



Right Hand Off-Set Side Tool



Right Hand Turning Tool

## ARMSTRONG Tool Holders

*They Save—*

High Speed Steel, 90%

Grinding, ----- 70%

Forging, ----- 100%

Over 100 tools for  
Lathe, Planer, Shaper,  
Slotter, etc.

*Get the free Catalog*



**Armstrong Bros. Tool Co.**

"The Tool Holder People"

308 N. Francisco Ave., Chicago, U. S. A.

## "Bridgebilt" Factory Seating and Tool Racks

A diversified line to meet re-  
quirements of every branch  
of industry.

**The Bridgebilt line  
will give long and  
satisfactory service**

*For illustrated price list  
and discounts write—*

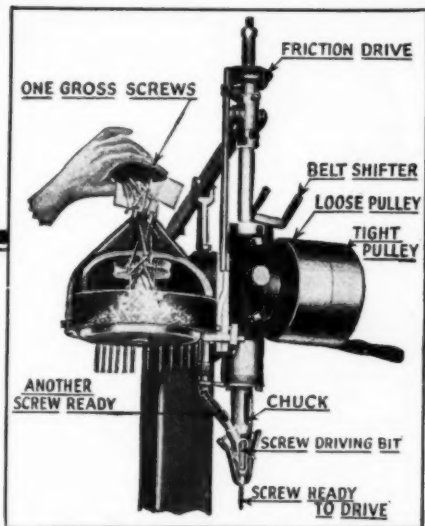
**The Chicago Wire  
Chair Co.**

619 No. LaSalle St., Chicago, Ill.



No. 1010-SWS

# Lowest-Cost Screw Driving



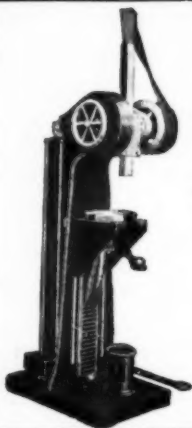
Showing the Magazine Feed of the Reynolds Automatic

With the Reynolds Automatic Magazine-Fed Screw Driving Machine, a boy or girl easily drives 800 to 1,500 screws an hour.

If you can secure those results on your work, would it not be a most welcome economy? And if so, will you not put it up to us to make good?

Tell us first, please, the dimensions over all of your work, and length and gauge of screws used, so we can get right down to figures which may surprise you.

**The Reynolds Machine Company**  
Dept. H. H., Massillon, Ohio



## Atlas Arbor Presses

For All Forcing Operations

Illustration shows our No. 55 Power Drive Press, which is adaptable for fast production work and capable of supplying ten tons pressure.

*Write for our Bulletin—  
showing 30 different sizes*

### Atlas Press Co.

*Department B,  
Kalamazoo, Michigan*

## Lourie's Quick Acting Arbor Presses

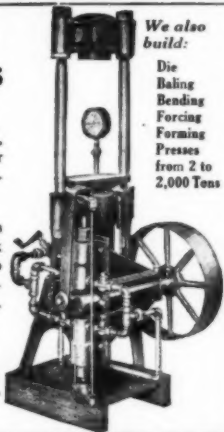
Many Styles and Sizes

The picture shows a small, compact power press for broaching, forming, punching, forcing, etc., etc.

We can produce the press which will do your work well, and at bottom cost, no matter what your requirements may be in this line.

*Put it up to us today—  
Glad to make an estimate*

**LOURIE HYDRAULIC CO.**  
Springfield, Ill.



*We also  
build:*

Die  
Baling  
Bending  
Forcing  
Forming  
Presses  
from 2 to  
2,000 Tons

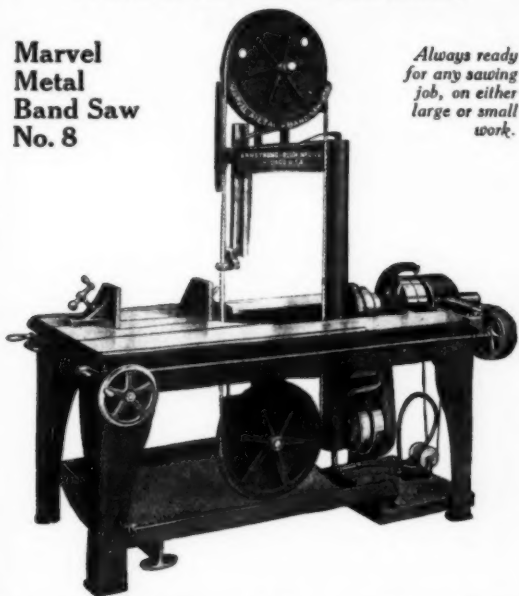


# Universal in Its Adaptation

To EVERY VARIETY of Metal Sawing

**Marvel  
Metal  
Band Saw  
No. 8**

*Always ready  
for any sawing  
job, on either  
large or small  
work.*



It saws bars, beams, channels, tubes, etc., rapidly and accurately, and does the finest tool room work. Saws at an angle either way up to 45 degrees without swinging the bar around the shop. Has big capacity up to 18 in. The large bed gives lots of room for material and tools. A saw for every need.

*Write for Circular or the Complete Catalog of MARVEL Saws*

**Armstrong-Blum Mfg. Co.**

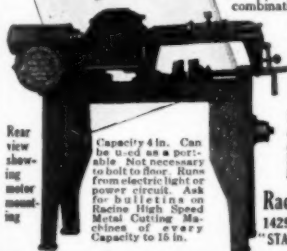
**341 N. Francisco Ave.,**

**CHICAGO, ILL.**

Send for this  
**FREE  
CHART**



Rear  
view  
show-  
ing  
motor  
mount-  
ing



Capacity 4 in. Can be used as a portable. Not necessary to bolt to floor. Runs from electric light or power circuit. Ask for bulletins on Racine High Speed Metal Cutting Machines of every Capacity to 16 in.

## New Improved "RACINE" JUNIOR

**WORM GEAR DRIVE** direct from motor is now used. All gears enclosed and running in oil. New Improvements in combination with old superiorities make Racine Junior absolutely free from vibration. The quietest, smoothest running as well as the fastest and most accurate metal cutting machine of its capacity.

Use "Racine" H. S. Wood and Metal Band Saw Blades & "Racine" H. S. Tungsten Power and Hand Hack Saw Blades. *Catalog H.*

**Racine Tool & Machine Co.**  
1429 Junction Av., Racine, Wis.  
"STANDARD THE WORLD OVER"

## No Rough, Broken Edges to Grind

**Peter Bros. Abrasive Metal Cutter  
Saves Both Time and Material**

IN THESE DAYS of high prices every economy must be practised, and this is especially true in regard to the cutting of high speed or other hardened steel. This rapid cutter also goes thru taps, drills, reamers, channels, brass or steel tubing, etc., with a thin, smooth cut. Soon pays for itself.

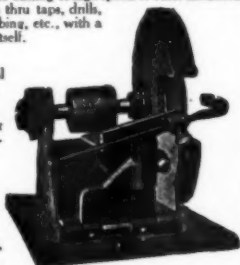
**8" Size \$22.50, with C. S.**  
Splendid for tool room. Cuts all high-speed steel up to  $\frac{3}{8}$ " square.

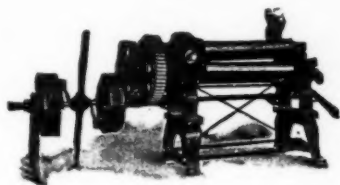
**12" Size \$60, with C. S.**  
Cuts up to  $2\frac{1}{4}$ " diameter, round or square, at any angle up to 45 degrees. Ball bearing.

**15 Days' Free Trial**

Write us or ask your dealer

**PETER BROTHERS MFG. CO.**  
115 Railroad St., Algonquin, Ill.





# BELOIT

INITIAL TYPE

## Sheet & Plate Bending Rolls

---

---

The Beloit Initial Type Rolls are built in a large number of sizes and capacities, and for a great variety of work.

The modern design of the Beloit Rolls of this type makes it possible for the operator to curve plates completely to the edge, thus getting away from the undesirable flat near the edge of the sheet.

The quick-acting cam lever device raises the top roll for the removal of completed cylinders.

Individual and simultaneous adjustment of both ends of the forming roll can be furnished, and the machine can be arranged for third roll drive, when necessary.

Those in the market for Bending Rolls cannot afford to fail to give us their specifications, and to get our quotations.

*We solicit your inquiries for Bending Rolls, either Initial Type as shown above, or the Pyramid Type machine, as well as for Punching and Shearing Machinery, both hand and power.*

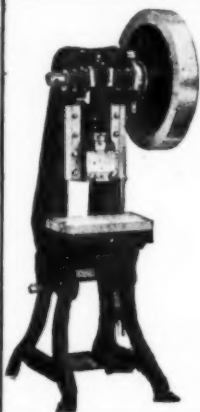
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### Hendley & Whittemore Co.

100 S. State St.,

BELOIT, WIS.



## Husky, Powerful

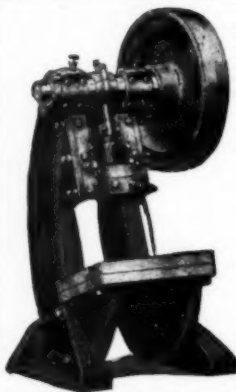
speedy Punch Presses  
deliberately designed  
for High Production  
work.

All Types and Sizes

*Write for Catalog*

**Rockford Iron Works**

Rockford, Ill.



Trade **Verson** Mark

## Punch Presses

For Accurate Work

Ask your dealer  
to show you the  
"Verson" Line of  
Power Presses,  
or write direct for  
circulars.

**La Salle  
Machine Works**

3013 S. La Salle St., Chicago, Ill.

Manufacturers of Power Presses, Angle Shears and Dies

*More than 3,000 concerns will be using  
Danly Die Sets in 1926*

## **DANLY DIE SETS**

### ***Cut Stamping Costs***

The outstanding advantages that have caused nearly 3,000 of the nation's leading plants to adopt Danly Die Sets as standard equipment are:

- 1—Saving in first cost of 20 to 50%.
- 2—Convenience of ordering from catalogue by type and number.
- 3—Eliminate shearing of dies.
- 4—Increase the "pieces per grind" 300 to 1000%.
- 5—Minimize overhead and tool-room procedure.
- 6—Maintain press accuracy and minimize human limitations.
- 7—Cuts set-up time about 80%.

You can order by type and number from Danly 34-page catalogue. You can obtain die sets completely assembled ready for immediate use or in the "knock down" for assembly in your plant.

*Immediate shipment from stock.  
Ask nearest warehouse for new  
34-page catalogue.*

**Danly Machine Specialties, Inc.**

**4913 Lincoln Ave., CHICAGO**

Detroit, Mich.  
1537  
Temple Ave.



Long Island  
City, N. Y.  
35  
Wilbur Ave.



## T. H. L. Durable, Rugged Punches

### *Make Money*

They make money, because they insure continuous and profitable production.

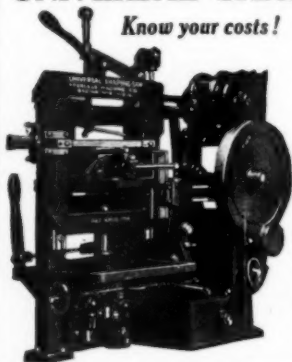
They are made right, of the right material, with our experience of 36 years behind them.

Large stock of regular sizes. Special sizes quickly made.

*Our Catalog includes Punching and Cutting Machines, Special Tools, etc.*

**T. H. Lewthwaite Machine Co.**  
417 East 31st St., (Est. 1890) New York City

## —PEERLESS— UNIVERSAL SHAPING SAW



**Know your costs!** Different Principles  
Greater Efficiency  
Give The Most Of—  
Speed  
Accuracy  
Blade Economy

SIZES:

6"x6"--9"x9"--13"x13"

**PEERLESS**

HIGH SPEED HACK-SAWS

6"x6" 9"x9" 13"x16"

Sturdy--Efficient--Reliable

**Peerless Machine Co.**

1609 Racine St.

Racine, Wisconsin

*Write for Details*

# Spring Press

(UNIFORM BLOW)

**Foot or Power**

**Single and Double Action**

These Presses are used in large numbers by manufacturers of electrical devices, jewelry, cutlery, hardware, clocks, radio sets, toys, instruments, etc.

The Uniform Blow a special feature—increases production and eliminates costly inspection.

**The Taylor & Fenn Co.**

**Hartford, Connecticut, U.S. A.**

## The Springfield Straightening Press

"The Acme  
of  
Convenience"



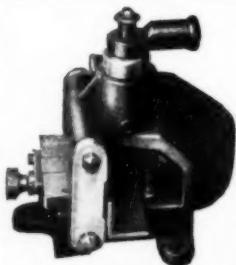
Invaluable  
in the  
tool room,  
also for  
straightening  
crank and  
cam shafts  
and other  
automobile  
parts.

The arrangement of this press is the *acme of convenience*, as any work within the range of centers may be tested and straightened without unnecessary walking from press to lathe each time in straightening rough or finished work. Any length, however, may be operated upon. Press is made in three sizes.

*Write for complete description of this handy tool*

**The Springfield Machine Tool Co.,** Springfield  
OHIO

We also manufacture Engine Lathes and Shapers



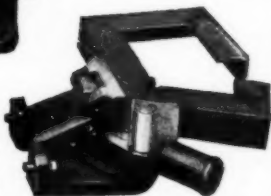
## No. 50 and No. 51 Angle Iron Notcher and Bender

Either can be used individually

Capacity, will Shear Mitre in  
2"x2"x1/4" Angle Iron

*Write for Prices*

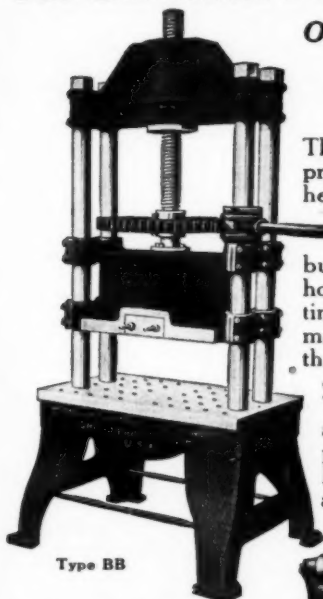
**WHITNEY  
METAL TOOL CO.**  
95 Forbes St.  
ROCKFORD, ILLINOIS





# The Die Maker's Best Friend

## *One-Man Four-Post Screw Press*



Type BB

This extremely rigid press is made for heavier work than our three smaller sizes, but they all save hours of valuable time and labor. One man fits dies quicker than two can do on other machines. They give perfect alignment between punch and die. Type BB has 20x36" table, and 80-ton pressure.

## Surface Grinder

Powerful—rigid—accurate—no vibration—no noise—a revelation in quiet efficiency. Graduated feeds.

*Details and prices for a postal*

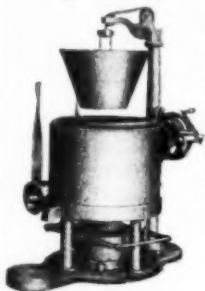
## JARECKI MACHINE AND TOOL CO.

Successor to Manhattan Machine & Tool Works  
Dept. A. GRAND RAPIDS, MICH.



## Stop that Oil Leak—

### In YOUR Shop!

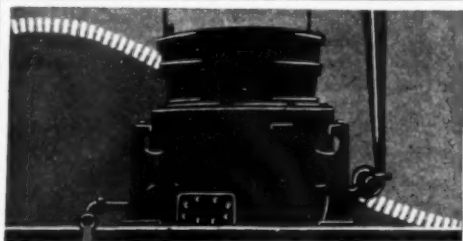


Most of your cutting oil is taken away on chips, and unless reclaimed, it is a total loss. A Curtis will save about 90% of this oil, thereby stopping a costly leak.

The Curtis Centrifugal Oil Extractor is made in two sizes, belt or motor drive. The illustration shows our No. 400, belt driven, with a capacity of  $1\frac{3}{4}$  bushels.

*A Curtis always pays big dividends. Write us today for complete data and prices.*

**The Leon J. Barrett Co.,** Worcester, Massachusetts  
*Successor to Curtis Machine Co.*



**Save  
Cutting  
Oil!**

6 to 15 gallons per load—three or four loads per hour. Write for catalog.

**Tolhurst Machine Works**  
Troy, N. Y.

## Improved E-Z-Set Boring Tool



Large boring capacity.  
Rigid, positive adjustment.  
Actuated by worm.  
Made in three sizes.  
Can't be beat; a trial will prove it.

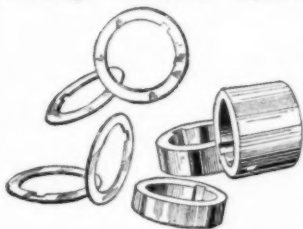
*Send for circular*

## M-P Three Tool Turret



With this Three Tool  
Turret, a screw machine has nothing on  
your lathe.

## Milling Machine Spacing Washers



### *Don't*

let your men cut  
paper washers  
for your milling  
machines. You  
can get steel .003,  
.004, .005, .006,  
and .010 thick  
at \$3.00 per C.

We also make  
collars from  $\frac{1}{8}$ "  
to 3" long.

**Necessary Shop Accessories**

*Manufactured by*

**The Maxwell Products Co.**

Ottawa & Indiana Ave.,

- Cleveland, Ohio



## **"CHICAGO"**

**No. 2**

### **Power Pipe Threading Machine**

*For*

**Production  
and Precision  
Threading**

**PORTABLE**

*Capacity:*

$\frac{1}{4}$ " to 2" Pipe

$\frac{1}{2}$ " to  $1\frac{1}{2}$ " Bolt

*Featuring:*

1. Quick Die Change
2. Automatic Safety Stop
3. Three Speeds
4. Perfected Oil Control

*Send for Catalog*

**Chicago Pipethread Machine Co.,** Office and Factory  
Racine, Wisconsin, U.S.A.



## **The "GUSHER"**

### ***The Last Word in Machine Tool Coolant Pumps—***

Of highest efficiency, requires the least power, and stands the wear and tear of time almost indefinitely.

"GUSHERS" are ball bearing, have no gears, no foot or relief valves, no packing nuts, need no priming, and are not injured by grit or small chips.

Capacities, 3 to 30 gallons per minute. Furnished with individual motors for any current, also for belt drive.

*Get the Catalog and prices*

**The Ruthman Mch. Co.**

**528-534 E. Front St.**

**CINCINNATI,**

**OHIO**

# PRODUCTION AND SAFETY!

Every plant using lathes, drill presses, shapers and similar cone pulley tools will be interested in the solution of an important problem presented some time ago in our plant:—

It became necessary that we equip such machines with approved belt shifters to meet the safety requirements of the State of Pennsylvania. That much was easy, but to realize the aims of operating ease and efficiency—dependability and durability which we set for ourselves, it became evident that we should have to develop a device.

We knew that the operator will not ordinarily shift oftener than he has to—specially if the operation is slow, inconvenient or unpositive, yet the gain on even a few such machines when consistently run at proper speeds is too great to be ignored.

Some months of thorough study and development resulted in a shifter beyond our expectations. It was approved by the State Board. Continued use in our own plant—favorable comments of experienced shop men and a recognition of the true economic value of this device resolved us to make it available to all.

## THE REZNOR

### QUICK-ACTING SAFETY BELT SHIFTER

is today in use in many nationally prominent plants. It is fast and efficient. It is dependable and durable. It is safe, positive and cannot damage belt. It will pay for itself many times in your plant. It requires no other guard on a lathe in the State of Pennsylvania.

*WRITE US TODAY for descriptive circular  
and our 30 DAY TRIAL proposition.*

**REZNOR MFG. CO., MERCER, PA.**

**ORDER ONE ON 30 DAYS' TRIAL.**

# THE G-S COMBINATION VISE

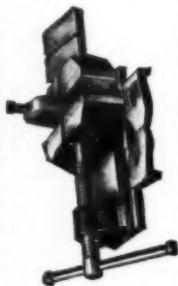
**3**

Tools for the Cost of

**1**

**VISE, V-BLOCKS  
AND ANGLE PLATE**

The most practical Vise for  
general Machine Shop use

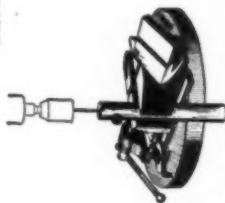


**A GREAT TIME AND  
LABOR SAVER**

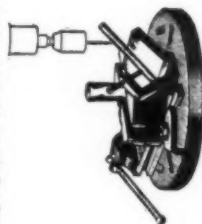
For holding work in Drill Press,  
Milling Machine, Shaper or Planer.

PATENTED		
No. 1	Dimensions	No. 2
5-in.	Jaws Open	7-in.
2 1/2-in.	Depth of Jaws	3-in.
8-in.	Width of Jaws	9 1/2-in.
12-in.	Jaws Overhang	16-in.
60-lbs.	Weight	100-lbs.
PRICES		
\$15.00	Complete Vise	\$50.00
	F. O. B. Factory	

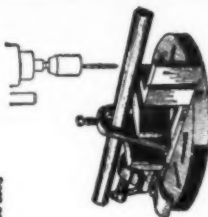
A few of the Many ways the G-S COMBINATION VISE can be used



Long shaft can be held in the overhang-  
ed jaws. Here the V serves as a jig for  
centering shafts, etc.



Shaft held on the angle plate for drilling  
holes at any degree. Also short shaft held  
in the V in vise. This converts Vise to a  
handy jig for duplicate parts.



Work is held in V's with the aid of special  
clamps—quick to set up and remove—no  
blocks, straps or bolts are necessary.

**Germanow-Simon Machine Co.**

**547 West Avenue**

**Rochester,**



**New York**

## Winterhoff Portable Production Drills

No. 0 JUNIOR DRILL  
10½" Swing, 0 to ¾" Capacity



Equipped with ¼ h. p. motor, two step cone pulley giving speeds of 1100 and 3500 r. p. m., horizontal drive gives full power to the 1¼" endless belt furnished with machine. Driven cone has bearing support at each end, all parts accurately machined and interchangeable. Positively the greatest value ever offered in a machine of this kind.

Drills, Grinders, Disc Grinders, Saws, Sanders. All motor driven.

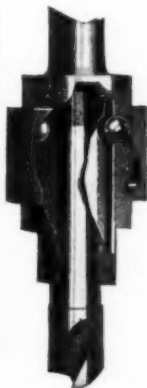
*Send for circulars describing these machines or see your Dealer.*

\$55, F. O. B. Elkhart

**Winterhoff Tool & Machine Co.**

109 South Elkhart Ave.,

Elkhart, Ind., U. S. A.



## A Real Quick Change Drill Chuck

No hammer or special device required. No separate drift or key to get mislaid. Simply strike the end of drill, and out it comes. A one-armed man can do it.

### The Titan Drill Chuck

has all the good features of other chucks of this type, plus a "quick change" that's real. Operates in any position.

Made in sizes No. 0 to No. 5 for any taper shank drill, counterbore, reamer or similar tool. Saves time; cuts costs.

*Write for description and prices*

**Titan Tool Company**  
Erie, Penna.

**Spindle Speeds  
to 10,000 R. P. M.**



**Sigourney No. 0  
All Ball Bearing  
High Speed Sensitive  
Bench Drill Press**

AN UNUSUALLY sensitive drill for accurate work at high speeds. Like all Sigourney Drills, it is sold on quality rather than price. All parts are interchangeable.

Sigourney Drills are made with one to four spindles. They are all extremely sensitive, accurate and durable.

*Write for  
Booklet today*

**THE SIGOURNEY TOOL CO., Hartford, Conn.**

**U. S. Sensitive  
Motor  
Driven 14" Floor Drill**

A simple, rugged, convenient drill, built by machine tool manufacturers. Drills holes up to  $\frac{1}{2}$ "—quickly, accurately, economically.

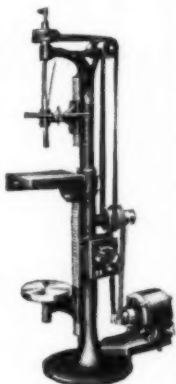
**Price with motor,  
switch and belts - \$115**

**Or with Counter-  
shaft for Belt Drive \$70**

Steel spindle, ground to size, with ball thrust bearing; vertical adjustment to head; tables for long and short work; three speeds, etc. Write for folder, or better still, send in your order.

**The U. S. Machine Tool Co.**

**1952 W. 6th St., Cincinnati, Ohio**







## Several Holes— At Cost of One

A *U. S. Multiple Spindle Drill Head* transforms your single-spindle drill into a multiple spindle.

You can drill two or more holes with the same speeds and feeds you use for drilling one.

Patented double adjustment permits drilling in any pattern. Special heads to order, with adjustable or fixed spindles.

*Let us help you reduce your drilling costs*

**The United States Drill Head Co.,** 1952 W. Sixth St., CINCINNATI, O.

Michigan Agents—National Sales Engineering Corp., Detroit, Mich.

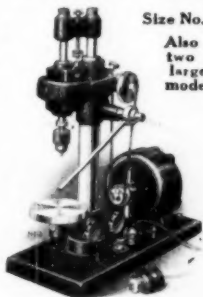
## Muehlmatt Sensitive Drill

Its paramount feature is *Quality*, backed by an experience of 30 years in producing small precision tools.

The "Muehlmatt" is really sensitive, having the "feel" necessary for drilling holes down to .010" in diameter, with the sturdiness for production work.

Soon becomes indispensable in the tool room, laboratory or experimental department, and on production work it usually increases output 25 to 100 per cent.

Over half of our business is repeat orders. Write for the exceptionally strong testimonials, also for complete description, showing exclusive features.



Size No. 1

Also  
two  
larger  
models

**Adolph Muehlmatt**

434 Elm Street,

Cincinnati, Ohio

No Smoke

No Fumes



Non-Poisonous

Non-Inflammable

Non-Explosive

**KASENIT No. 1**  
For Fine Work and  
Very Rapid  
Hardening

Sold in  $\frac{1}{2}$  lb., 1 lb.,  
3 lb., 5 lb. and  
10 lb. tins

**KASENIT No. 2**  
For General  
Hardening

Sold in 25 lb. and  
50 lb. kegs

Write for Booklet "C" on hardening. Ask your dealer or write—

**KASENIT COMPANY,** 2 & 4 Stone Street  
NEW YORK, N. Y.



## A Tool for Your Needs

### *The Walton Tap Extractor!*

**When That Tap Snaps**—you have to pay for both the time it takes to remove the pieces, and the delay to the work in hand.

**Keep the Expense Down**—by using a Walton Tap Extractor. Simply insert the fingers of this handy device into the work, give it a few twists, and the tap backs out easily and safely.

**Sizes No. 8 to 1 $\frac{1}{4}$ "—60 Days' Approval**

*They've reduced shop costs for others—  
They can do so for you*

**The Walton Company**  
Hartford, Conn.

# Thor

## Electric Drills —

*Push the Button  
and It's Ready*



**M**EN who use a THOR Portable Electric Drill, tell us that it is exceptionally easy to operate and control. The easy operating push button switch enables the operator to start or stop at will.

The handle is comfortable and gives positive control over the drill.

THOR Drills are built of easy running, rugged parts that insure durability and economy. Jacobs Chucks, ball and roller bearings, double-silk wound coils, and other high grade parts are standard equipment.

All THOR Electric Drills have a ground wire—an exclusive safety feature. Shocks are impossible!

**Independent Pneumatic Tool Co.**  
**600 W. Jackson Blvd., Chicago, Ill.**

## "Utility" Interchangeable

**Counterbore  
and**

**Spot  
Facer**

With the Pilot  
that *cannot*  
twist off!



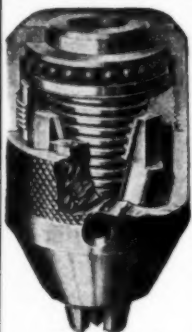
Pilots don't break.  
Cutters don't break.  
Cutters are easily removed  
from holders.

Set screws don't come loose.  
Cutter drive is simple and  
powerful.

Counterbore and spot facer troubles  
practically eliminated.

If you're interested in economy, send for  
the Catalog. You'll be glad you did.

**The J. C. Glenzer Company**  
**6469 Epworth Boulevard**  
**DETROIT, MICH.**



Hand-operated  
Self-tightening

# Ettco

## Keyless—Ball Bearing Drill Chuck Continuous Grip

As the load increases the *Ettco* grips harder. It releases by hand—always. It saves time, drills—and chuck repairs are practically eliminated.

Send for details of special exchange offer  
Use **ETTCOS** on your electric drills

**Eastern Tube & Tool Company, Inc.,** 600 Johnson Ave., BROOKLYN, N.Y.



Style "WC"



Style "O"



The Hinge



Style "G"



Style "A"

### Gits Gravity and Wire Wick Feed Oilers

**Gravity Feed**—flushes the bearing.

**Wire Wick Feed**—gives desired prolonged feed.

**Wire Wick**—replaces waste or felt.

Made in Standard sizes.



Style "L"

**Write for Catalog  
No. 20**

Showing 255 full size illustrations with detail dimensions.



Style "U"

### GITS OIL CUPS

Oil cups for every lubricating need. State style and size in which you are interested, and we will send free samples and catalog.

**GITS BROS. MFG. CO**  
1940 SO. KILBOURN AVE., CHICAGO



Style "T"



## Positively Eliminates All Tap Breakage

In constant use for over ten years, it is daily performing the most difficult work of tapping tough metals, blind tapping, and bottom tapping in shallow holes. The up-to-date

### Woodstock Improved Safety Tapping Chuck

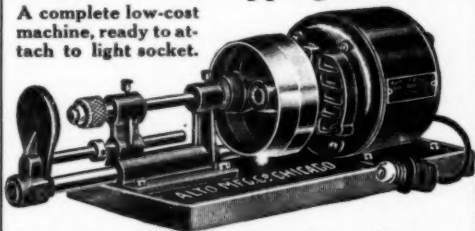
automatically releases tap the instant it binds or touches bottom, positively eliminating tap breakage. Used by U. S. Government and leading automobile manufacturers. Made in five sizes.

*Write for details and trial offer*

**Peter Bros. Mfg. Co.,** 115 Railroad St., ALCONQUIN, ILL.

## ALTO Motor Driven Tapping Machine

A complete low-cost machine, ready to attach to light socket.



Its main points are—(1) High speed, with reverse three times as fast; (2) Compact and complete, ready to attach to light socket; (3) So simple in construction that we can sell this high-grade tapper at a low price. Just what you've been looking for. We also make larger motor driven Tapping Machines.

*Write for description and the reasonable price*

**The Alto Mfg. Co.,** 1647-51 Wolfram St. Chicago, Ill.

Motor Driven, \$42 to \$47

Belt  
Driven  
\$19  
to  
\$22



No. 1

## Burke 10" BENCH DRILL

Extremely accurate,  
very sensitive and  
of *Burke Quality*.

Excellent for pro-  
duction work. A real  
time and money  
saver when placed  
at convenient points  
about the shop.

*Send for Catalog  
of Drilling, Tapping  
and Milling Machines*

The Burke Machine Tool Co., 297 E. 16th St.,  
Conneaut, Ohio

## A RIVETING PROBLEM? LET GRANT SOLVE IT!



Many an awkward riveting job has  
had to be done by hand until they  
investigated the

### GRANT ROTARY RIVET SPINNER

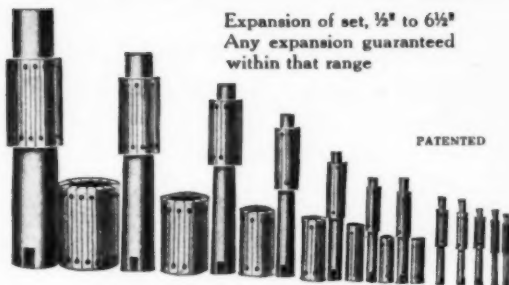
It is especially adapted to handling pieces  
of awkward shape and to work in hard-  
to-get-at places. And besides

#### It Is Noiseless —

All work is uniform, as tight or loose as  
desired, with highly polished heads; its  
speed is a rivet per second, and it may be  
operated by cheap help.

*Write for Catalog and send us a sample  
of your most difficult work for riveting*

The Grant Mfg. & Machine Co.  
C. E. Station, Bridgeport, Conn.



ONE SET OF 12

## Champion Expanding Mandrels

Will fill by thousandths any  
inside diameter from  $\frac{1}{2}$ " to  $6\frac{1}{2}$ "

The cost is about one-fifth that of solid arbors of equal range graduated by sixteenths.

And they are so simple—only two parts; so handy, always ready for any job; and so efficient.

They are suitable for all classes of work, large or small, in all kinds of metal. They hold work of any length of bore and do not chatter. They are lighter, more easily handled, and keep truer than common mandrels. They release work easily. And the grinding of all parts after hardening insures the greatest accuracy.

### Our Catalog also describes

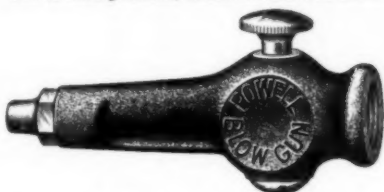
Champion Tool Holders, Champion Emery Wheel Dressers, Machinists' Vises and Clamps, etc., and our large line of practical, hard-to-beat Shop Furniture. Copy upon request.

**The Western Tool & Mfg. Co.**  
SPRINGFIELD, OHIO

# POWELL BLOW GUN

Designed to dispense AIR with utmost economy

Used for cleaning machines, machine tools and work benches



Made with different tips for special requirements.

*Circular on request*

**The Wm. Powell Co.**

2525 Spring Grove Ave.,

Cincinnati, O.

Round



Flat



Oval



Fillister



## "Economy" Screws Are Right

Made *right*, of the *best material*, with heads free from burrs—especially suitable for screw machines. Can ship promptly all standard sizes, iron or brass, with four styles of heads. If you cannot get "Economy" Screws from your jobber, write us, giving nearest jobber's name and address.

**Economy Screw Corporation,**

5213 Ravenswood Ave.,

Chicago, Illinois



The Nicholson Patented  
**Expanding Mandrels**  
Are Saving Lots of Money



***Strong!***

***Rigid!***

***Accurate!***

**Y**OU LOSE no valuable time, nor is a job delayed, when a set of Nicholson's Mandrels are available. Compared to these up-to-date tools, solid mandrels are an expensive make-shift.

Nicholson Expanding Mandrels come in sets of nine, with two or three sets of jaws for each. And *one set* will cover the *entire* range between one-half and seven inches, inclusive. In other words, at least one of these mandrels will take absolutely *any* hole, no matter what it is, between these two dimensions, without calipering or guess work, and the nine will replace *all* the solid mandrels.

They are adaptable to work of the most varied nature. They save time and labor out of all proportion to their moderate cost.

*Write today for the instructive Booklet  
and our 30-day trial offer*

**W. H. Nicholson & Company**

117 Oregon Street,

Wilkes-Barre, Pa.

## Anderson Improved Balancing Ways

### Ever-Ready—Sensitive—Reliable



They need no adjusting. The rotating discs made of chilled iron run in specially designed ball bearings and are exceptionally sensitive. You will like 'em.

The six sizes have no equal for balancing pulleys, gin brushes, turbine rotors, crank shafts, polishing wheels, fly wheels, etc.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards	20"	30"	30"	66"	88"	20"
Capacity in lbs.	1000	2000	2000	5000	10000	24000
Approx. shipping weight	45	90	150	350	650	
Code	Bend	Bid	Bis	Bib	Ben	

*Any of above can be furnished with longer shafts*

**Anderson Bros. Mfg. Co.**  
1915 Kishwaukee St., Rockford, Ill.

## For Sure Balance--

an absolutely level and solid "Way" is necessary

## Bowsher "Balancing Ways"



are brought to an absolute *level* in ten seconds. No revolving parts.

The edges or "knives" upon which the work is tested are ground *true*, and are mounted upon the planed "ways" of a heavy bed or frame.

Standards adjustable to suit length of arbor.

Three sizes for floor—one for bench use

*Send for Catalog "F"*

**The N. P. Bowsher Co.,**      **South Bend, Ind.**



# Sharp saws at 5¢ each

That is all it  
costs when  
**RESHARPENED**  
on this machine

**SAVES TIME  
REDUCES WORK  
ADDS EFFICIENCY**

## *That's Why*

Amer. Brass have.....	19
Continental Fibre.....	28
Formica Insulation.....	10
and over 100	
Newspapers use them	

## **The Model J**

at a speed of  
**70 TEETH A MINUTE**  
sharpens all medium,  
soft or spring tempered  
**CIRCULAR SAWS**  
up to 18" in diameter.  
Teeth from as small as 32 to  
1" up to 1/2" spacing.

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## **THE WARDWELL MFG. CO.**

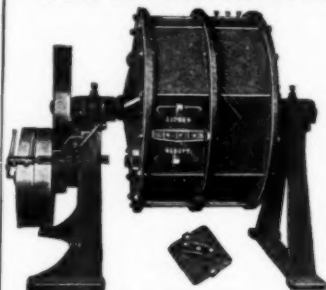
Makers of automatic machines for sharpening—Hack Saws, Hard Tempered Band Saws, Milling, Splitting and Screw Slotting Saws and all Woodworking Saws.

Manufacturers of the largest line of Saw Filers made in U. S. A.

**105 Hamilton Ave.,**

**CLEVELAND, OHIO**

## Abbott Burnishing Barrel And Carbonized Steel Ball Process



**Let us  
burnish**

samples of your  
small metal  
parts, and fur-  
nish time and  
cost estimates.

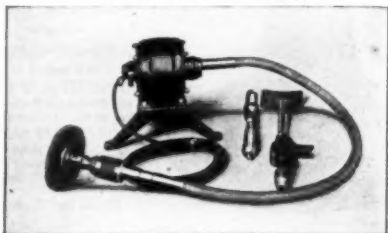
Quality is high,  
and cost is bed-  
rock.

*Send us  
your samples*

**THE ABBOTT BALL COMPANY**  
Elmwood District, Hartford, Conn.

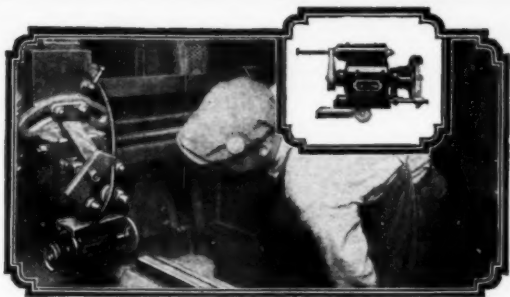
## The Whirlwind Buffer and Grinder

Will cut the cost on any unhandy  
grinding or polishing job



*Send for our latest bulletin*

**Stow Flexible Shaft Co.,** 3454 Ludlow St.,  
Philadelphia, Pa.  
*The Best Since 1876*



## Helping Willys-Overland Take America Off Its Feet

**I**N THE Willys-Overland plant at Toledo, Dumore grinders play an important part. How well they fulfill every demand made of them—how accurate and adaptable they are for all varieties of grinding work, is convincingly illustrated in the hood panel forming—die grinding job pictured above. And when you consider that this is but one of many difficult operations successfully handled by Dumore grinders at the Willys-Overland works, you'll agree that these efficient tools assist materially in "taking America off its feet."

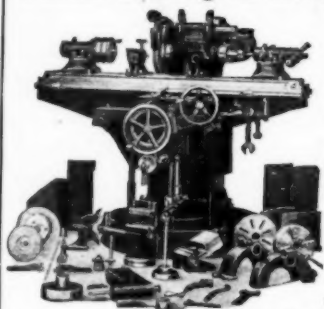
It is reasonable to assume that what Dumore grinders can do for Willys-Overland they can do for any other manufacturer. Six distinct styles of Dumore grinders, each with individual speed ranges, provide a grinder with the correct cutting speed for any grinding need. Dynamically balanced armatures and selected ball bearings in Dumore grinder motors eliminate vibration—permitting maintenance of grinding limits as close as .0001, without taper, bell-mouth or chatter marks. Operating on alternating or direct current, they are especially useful in shops supplied with two varieties of power current. Portable, they save the cost of tearing down expensive set-ups.

Why not find out what they can do for you? Our new catalog tells an interesting story of Dumore grinders and their uses. By asking for it *today* you'll get it quicker than by delaying until tomorrow. Write now!

Wisconsin Electric Co., 43 Sixteenth St., Racine, Wis.

# DUMORE HIGH SPEED GRINDERS

## ALL Grinding on ONE Machine



### Thompson 10'x36' Universal

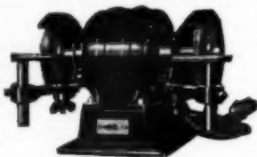
Does plain, surface, edge, die and cutter grinding like single-purpose machines.

The work adjusts to a fixed grinding wheel—an exclusive feature that's better.

*Write for Bulletin*

Manufactured By  
**THE THOMPSON GRINDER CO., - Springfield, Ohio**

## Bodine Portable Electric Tool Grinders



*Have  
Eight  
Outstanding  
Advantages*

Which we want  
to tell you about.

*Equip Your Plant* throughout with Bodine-Built Grinders, driven by Bodine-Built Motors, and there will be no excuse for robbing your production with dull tools in any department. The "Eight Outstanding Advantages" are real, for the purpose of insuring sharp tools and better production—a tremendously important consideration.

*Write for a copy of "Eight Outstanding Advantages"*

**The Bodine Electric Company**  
2256 West Ohio St., Chicago, Ill.

# Why Continue The Waste?

The "Good Enough" of Yesterday  
HAS BEEN OUTCLASSED  
In Methods for Truing Grinding Wheels

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The largest factories in the U. S.  
are adopting our truing tools and  
are saving at least one-half of  
their former diamond cost.

## You Can Do the Same

Any good mechanic can use these  
tools successfully by following the  
simple instructions.

## The Saving is Worth While

The tools are not an experiment, as  
one concern has several hundred  
of them in use every day and there  
are scores of concerns using them  
on their best work.

**BETTER-FASTER**  
**and Decidedly Less Cost**

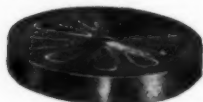
*Ask us for information*

**The Precision Truing Machine & Tool Co.**  
**CINCINNATI, OHIO**

## They Save Much Time and Labor—



### The "D & W" Flat and Rotary Magnetic Chucks



You Will Find our line a revelation in practical efficiency. They hold an immense variety of steel and iron pieces for grinding, planing, shaping, milling. Our rotary chucks are very successful in plants making ball and roller bearings; especially good to hold ball races when being ground to finished size. Our attachments convert a flat chuck into a Vertical, Taper or Swiveling type, as wanted.

*Special Chucks to order. Folder and price list on request.*

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## Grinds or Polishes



Belt Grinder

**M**UCH faster and more accurate than a wheel for the flat grinding of metal, fibre, wood, etc. SYRACUSE Disc and Belt Grinders have many uses in every shop. Portable, motor driven from lamp socket, they save steps and extra handling.



Disc Grinder

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**PORTER-CABLE**

**MACHINE  
COMPANY**

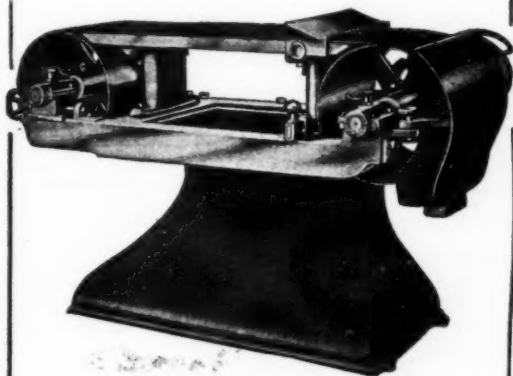
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# PEERLESS SURFACING MACHINES

Will reduce grinding and finishing costs  
and give you better work.

Can be substituted for many expensive  
milling machine and planer operations.



Made also in vertical and bench models.

*Send for large folder*

**PEERLESS SURFACING MACHINE CO., Inc.**

**TROY, N. Y.**

**In Canada: A. R. WILLIAMS MACHINERY CO., Toronto**

# FEDERAL DIAL COMPARATOR

— CAPACITY 6" —



With Indicator  
Graduated .001"

**\$33.50**

With Indicator  
Graduated .0001"

**\$48.50**

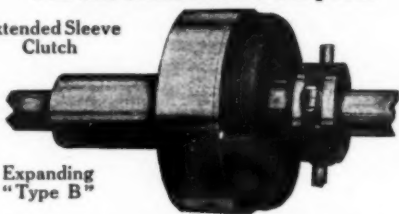
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**Federal Products Corporation**  
Elbow & Chestnut Sts., Providence, R. I.

## Edgemont Friction Clutches

For All Transmission Purposes

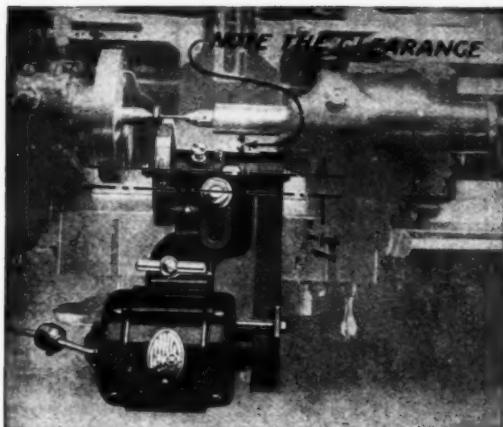
Extended Sleeve  
Clutch



Expanding  
"Type B"

This clutch is designed for driving wood, steel or cast iron pulleys, gears, drums, rope sheaves, sprocket wheels, etc., on the sleeve. Edgemont Friction Clutches are made for all transmission purposes. Glad to advise on your needs—right now.

**Edgemont Machine Co., Inc.,** DAYTON,  
OHIO



The Smallest Piece can be Ground Between Centers

The most Flexible **Precision Grinder** And it's Portable  
For Internal and External Grinding

It has the sturdy construction to meet every demand, yet is light enough to be portable and usable on the various machine tools in your plant.

Built on a precision basis, it is particularly valuable where the allowable limits are held inside of tens of thousandths of an inch.

Those who are using this highly developed grinder, find it a most valuable addition to their tool room or machine shop equipment.

*Write for our Booklet, which describes many new features and illustrates several operations in internal, external and surface grinding.*

*Manufactured by*

**J. E. GILBERT GRINDER CO.**

214-16-18 Greenbush St.,

MILWAUKEE, WIS.

**SERVICE TOOL DIE & MFG. CO.**

2256-58 W. Walnut St.,

CHICAGO, ILLINOIS

*Distributors for—ILLINOIS, OHIO, INDIANA, MICHIGAN*

## LESS of Lift, Lug and Labor!



Make it easy and pleasant for the mechanics in your shop by installing a

### CantOn Portable Crane, Hoist and Truck

to tote around your machinery and heavy, awkward stuff. They save time and temper, toes and fingers. Your choice of several sizes.

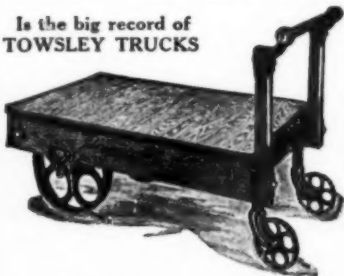
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**CANTON FOUNDRY & MACHINE CO., Canton, Ohio**

New York Office: 203 East 15th Street, Second Floor

## 500% Annual Dividends

Is the big record of  
**TOWSLEY TRUCKS**



### TOWSLEY TRUCKS


repay their cost every two to three months.

Let us tell you how. Made in every style for every need.

*Write us about this profitable investment*

**John T. Towsley Mfg. Co., Cincinnati, Ohio**

# TRIBLOC CHAIN HOISTS



**Good tools  
for better work**

Making the worker's job more agreeable shows a favorable result on production cost sheets.

Get this result in your shop by transferring the costly drudgery of load lifting to sturdy Tribloc Chain Hoists. Proper load lifting devices keep your mechanics at the job they're paid to do.

We will gladly tell you how Triblocs can be used to advantage in your shop—making more profitable the effort of hard-to-get mechanics.

*Send for Catalog 7-B*

**Ford Chain Block Co.**  
2nd and Diamond Sts.,  
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Jacobs  
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JACOBS  
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Equipment

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For

THE KENT MACHINE CO.,

*This advertisement is  
in the interests of good Dealers  
and is published by the makers of the*

Jacobs  
Chucks

## Kent Six Spindle Driller

**A Semi-Automatic Machine for Drilling Six Holes  
at a Time in Bolts, Pins and Irregular Pieces**

This High Speed Multiple Driller has twelve fixtures on the drilling table, in two groups of six each. While six of these fixtures are in front of the drill spindles, the other six are automatically unclamped, to be unloaded and loaded by the operator. The shifting of the table and the locking of the work are both automatic.

This provides for continuous drilling, excepting only during the shifting of the table, which takes merely the time of a small fraction of a revolution of the cam shaft. The feeds and speeds cover a wide range. A quick unloading attachment can be furnished if desired.

*For complete description of this modern Driller, write to—*

**CO.,    :-    :-    KENT, OHIO**

*ment is published in the  
Drilling Equipment  
of the Jacobs Chuck*

**Know your drilling costs**





## Strand Rotary Files

Used with Strand  
Flexible Shaft  
Machines. Are  
giving excellent  
service.

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N. A. Strand & Co.  
5001 No. Lincoln St.  
CHICAGO

## HIGH SPEED HAND CUT ROTARY FILES



## CISCO Universal Lathe Thread Milling Attachment



IN SHOPS where the work does not warrant the buying of a special machine, this attachment will be found a top-notch auxiliary. Can be mounted on any standard lathe. Standard cutters of single and multiple type can be used. The construction assures perfect threads, right or left hand.

Write for descriptive  
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The Cisco Machine Tool Company, CINCINNATI,  
OHIO



# AMES

## Bench Milling Machine



**B. C. Ames Co.**  
**Waltham, Mass.**

Please send me complete information about  
**AMES BENCH MILLING MACHINES**

Name .....

Address .....

H1 .....

## Save Time Setting Gang Milling Cutters

Eliminate  
Thin  
Washers



Hardened  
and  
Ground

PATENTED

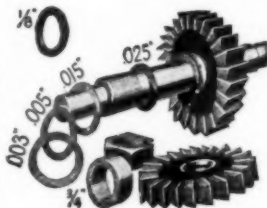
**"Wear-Ever" Adjustable Spacing Collars** permit setting cutters to the thousandth part of an inch without removing from the arbor.

Stock sizes for  $\frac{1}{4}$ " to  $2\frac{1}{2}$ " arbors, sent on approval. They are adjustable in 12 steps of  $2/1000$  inches.

**SCULLY-JONES & CO. TOOL DIVISION**  
13th and Robey Streets CHICAGO, ILL.

## Steel Spacing Washers—

Made of a good grade of Cold Rolled Strip Steel, also known as Shim Steel



Stock sizes for arbors of following diameters:  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  $1\frac{3}{8}$ ,  $1\frac{1}{2}$ ,  $1\frac{5}{8}$ ,  $1\frac{3}{4}$ ,  $1\frac{7}{8}$ , 2,  $2\frac{1}{4}$ ,  $2\frac{1}{2}$ , 3,  $3\frac{1}{2}$  and 4 in. and larger.

Stock thicknesses: .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .032, .047, .063, .093 and .125 inch.

Other thicknesses up to .000" made to order, with keyways if so ordered.

Ask us to send samples; you'll like them

**Detroit Stamping Company**  
3443 West Fort St., Detroit, Mich.

# Saves Your Buying Many New Tools



PATENTED

**Genesee Adjustable Hollow Mill**—has adjustable, replaceable blades, which can be replaced at small cost, and this saves you buying many a new tool. They are ideal for finishing forgings, castings, etc. You can adjust them to the 1000th of an inch in a few minutes, and are designed to utilize machines to their full capacity.

Genesees can be fitted with drills and reamers, have formed blades, etc. Blades can be ground any angle to point work and turn short tapers. They cut up to 15" a minute in steel, are stronger than solid tools, and cannot change in size.

*Seven sizes cover work from 1/8" to 2". The Genesee is now made in six different styles, from the heavy roughing Style "B" to the accurate finishing Style "F." We also make Style "N" Mills for all Brown & Sharpe Automatics. Write us about your needs—our tools reduce costs.*

**Genesee Manufacturing Co., Inc.**

Established 1908

**Rochester, N. Y., U. S. A.**

*Manufacturers of Genesee Rapid Production Tools*

# Just Once And That's All

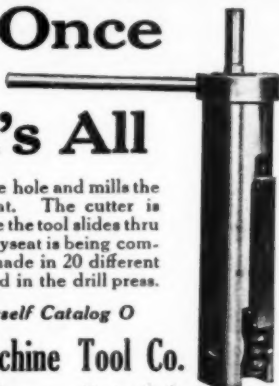
It goes thru the hole and mills the internal keyseat. The cutter is rotary and while the tool slides thru the hole the keyseat is being completed. It is made in 20 different sizes and is used in the drill press.

*Allow yourself Catalog O*

**National Machine Tool Co.**

2268 Spring Grove Ave.,

Cincinnati, O.



## Re-Arranging Your Shop?

**DON'T Dismantle Shafting  
to Cut Your New Keyseats**



**Use a  
BURR  
Portable  
Keyseater**

Cuts accurate  
Keyways up to  
12" long any-  
where, in any  
position, in shafts  
up to 5" diam.

**Seven sizes. Operates by hand or power**

*Over 9,000 in use; order now and save money*

**JOHN T. BURR & SON**

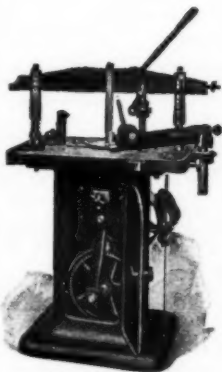
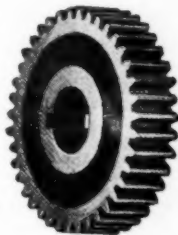
422 Kent Ave., Brooklyn, N. Y.

# You Need a "Davis"

Of course you must have  
quite a number of

## Keyways

like this  
to cut—



No. 1 Keyseater

You need a "DAVIS"  
for such work, because  
it will give you the same  
satisfactory service it  
gives users everywhere.

Nothing better for cut-  
ting keyways in pulleys,  
gear blanks, bell cranks,  
crank handles, etc., and  
for oil grooving and sim-  
ilar work.

*Made in two sizes—*

No. 1, Cap.  $\frac{1}{2}$  to 1 in.

No. 2, Cap.  $\frac{1}{8}$  to  $\frac{3}{4}$  in.

*Write for complete illustrated description,  
including interesting table of cutting time*

## Davis Keyseater Company

255½ Mill St., Rochester, N. Y., U. S. A.

Patented  
Jan. 30, 1917



## New "AUTEX" Extension Reel

1925 Model

Don't Forget the Swivel Joint Feature

Permits of carrying the lamp  
in any direction.

Rapidly finding a place in large  
Industrial Plants, Machine  
Shops and Service Stations.

Now equipped with Belden Rubber Cord  
Approved by the Underwriters

*Write for descriptive circular*

**The Cincinnati Specialty Mfg. Co., Inc.**

1903 Powers St.,

Cincinnati, Ohio

## Use the Blue Book to Reach The Big Manufacturers

in all lines of business, in every state in the  
Union, who use machine tools in their plants.

It goes to more of them than any other pub-  
lication on earth, because we mail it to them.

Our method is simple, as most good things  
are, and as effective as it is simple.

*Write for rates and full particulars*

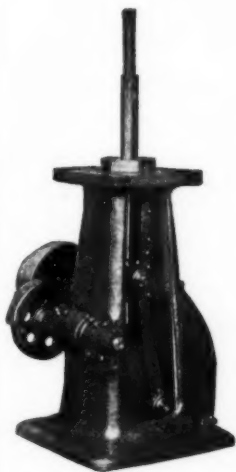
**Hitchcock Publishing Co.**

508 S. Dearborn St.,

Chicago, Ill.

# In Three Minutes—

A Catlin Cuts a Keyseat 6"x1"x7/16"



*Favor us with your inquiry.  
We shall be glad to mail  
the interesting folder and  
answer your questions.*

Many other time-saving examples could be cited to show what is being done with this up-to-date, rapid key-seater in the run of an ordinary day's work.

Simplicity is the keynote of all Catlins—they contain less than half the number of parts of other key-seaters. And ordinary help soon becomes expert with them.

Nos. 0, 1 and 8 Key-seaters have crank motion. All other sizes have the rack and pinion drive. On some classes of work it is possible to keyseat piece after piece without clamping down the work or stopping the machine.

The Picture shows the No. 1 Catlin, belt driven, with three-step cone pulley. Our other sizes, for belt or motor drive, cover practically all keyseating requirements.

**Chattanooga Machinery Company**  
2401 Bennett Ave., Chattanooga, Tenn.

## Vanderbeek Universal Joints



—represent the practical refinements of 25 years experience in manufacturing Universal Joints. All parts are generous sized, fully protected against dirt, and are practically self-oiling. Exceptionally strong, they transmit full power up to 70°.

Vanderbeek Joints are in daily use on thousands of machines.

*Write today for our Descriptive Catalog.*

**American Tool Works, Inc.**  
Hartford, Conn., U. S. A.



## "Borgeson Universal Joints"

**Are you a user of Universal Joints?  
If so!**

Remember well and bear in mind that a good Universal Joint is hard to find. But if you want one tried and true, you will want the "Borgeson" before you are through.

You will become not only a "Buyer" but a "Booster" for "Borgeson."

**SIZES:**  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{5}{8}$ ,  $\frac{3}{4}$ ,  $\frac{7}{8}$ , 1,  $1\frac{1}{8}$ ,  $1\frac{1}{4}$ ,  
 $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2,  $2\frac{1}{2}$ ,  $2\frac{3}{4}$ .

Should you require Special Universal Joints, be sure to write for quotation.

*Complete description gladly  
furnished upon request*

**The Borgeson Mfg. Co., Inc.**  
Torrington, Conn.



## Adjustable Threading Dies FOR BOLTS AND RODS

Requiring no reversing to remove them.  
Also adjustable centering jaws in the new pattern



### "DUPLEX" Die Stock Set

Each cutting edge on separate flat piece makes  
sharpening easy. Wide adjustment.

THE HART MFG. CO., 2319 E. 20th St., CLEVELAND, O.

## *High Quality—Right Prices—Good Service* **Hollow Bored Forgings and Steel Shafts**



**Piston Rods**

**Rams**

**Clutch Shafts**

**Steel Pipe**

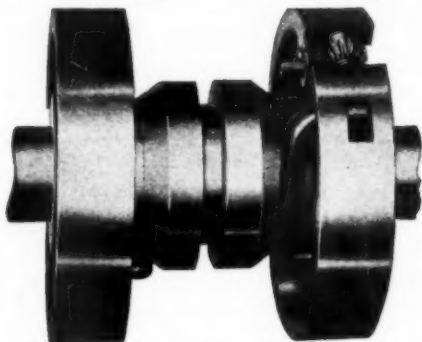
**Lathe Spindles**

**Etc., Etc.**

*Send blueprints with trial order or for quotation*

**American Hollow Boring Co.**  
**Erie, Penna.**

# Convenient Compactness *plus* Dependable Strength



**Found in the CMT Close Coupled Clutch**

It's a type specially designed for cramped and crowded installations where the clearance is in fractions, and where transmission of power must be effected in a minimum amount of space. None of the standard Conway features is sacrificed in this design except the full length shaft bearing.

Applications of the close coupled type are usually of heavy duty character, where the clutch's ruggedness and capability for punishment are essential for the successful functioning of the operating machine.

The double type is pictured above; we also make the single type. We shall be glad to mail you prices, and to give you a list of the many businesses where the *ever dependable* Conway Clutches have already made good.

*It's your move. Drop us a line today.*

## **The Conway Clutch Company**

1951 Riverside, Cincinnati, Ohio

## Second-Hand Machinery

Lists of Second-Hand Machinery, either For Sale, Wanted or For Exchange, set in uniform style, will be published under this heading at the rate of **30 cents a line**, across the page, each issue, plus **\$2.50** for name and address. Minimum charge, **\$5.00**. No display permitted in this department.

**Write directly to those offering the machines for sale** for prices and full descriptions. If what you seek is not listed, use the blank enclosed to make known your wants to the publisher, who will pass them along to all Machine Tool Blue Book advertisers.

**Circulation of Machine Tool Blue Book, 25,000.**

### FOR SALE BY

**Reznor Manufacturing Company,** . . . . . **Mercer, Pa.**

#### STEAM-HYDRAULIC ELEVATOR

One Ridgeway steam-hydraulic elevator, 5-ton capacity, extra large platform, lift 4 stories or less, in excellent condition. A very satisfactory machine, for sale due to discontinuing our steam plant.

### FOR SALE BY

**E. A. Kelly,** . . . . . **958 35th St., Milwaukee, Wis.**

Boring, drilling and tapping machine, No. 12 Pawling & Harnischfeger horizontal floor type.

Cylinder borer, 4-spindle Foote-Burt.

Press, No. 58 Toledo s. s. geared.

Radial drills, 36" Cincinnati-Bickford, single pulley drive, (2).

### FOR SALE BY

**J. L. Lucas & Son, Inc.,** . . . . . **3 Fox St., Bridgeport, Conn.**

#### DUPLEX MILLING MACHINES.

2—No. 2 Garvin duplex milling machines, back geared, power feed, oil pan bed, tank, and piping; table, 8x51; automatic table feed, 30".

Now arranged for motor drive; will change if desired.

Price, each, f. o. b. Bridgeport, satisfaction guaranteed, \$575.00.

### FOR SALE BY

**Harry W. DePrez,** . . . . . **Shelbyville, Indiana**

Planer, 16x16x36" Pratt & Whitney, with vise.....\$ 175.00.

Radial drill, 3' Gang Machinery Co.....250.00.

Sand blast cabinet complete, American Foundry Co. type K.....125.00.

Steel roller conveyor, 100', with stands, per foot.....1.50.

Lift trucks, Cowan and Geo. P. Clark.

### FOR SALE BY

**Clinton Machinery Co.,** . . . . . **128 S. Clinton Street, Chicago, Ill.**

#### MILLING MACHINES.

No. 2 Cincinnati universal.....\$500. | No. 21 Garvin, geared.....\$175.

No. 1½ Rockford plain, with d. h. and vise.....450. | P. & W. and Hardinge, bench type, each.....125.

No. 1 B. & S. univ., complete.....350.

#### SHAPERS.

14" Smith & Mills crank (2).....\$225. | 17" Smith & Mills b. g. crank.....\$375.

15" Kelly crank.....200. | 20" American, b. g., univ. table.....650.

## SECOND-HAND MACHINERY

### FOR SALE BY

Cyril J. Bath & Co., E. 70th & Mch. Ave., N. E., Cleveland, O.

#### BORING MILLS—VERTICAL.

42" Baush, 2 swivel heads, 75%.	100" Niles, 2 heads.
42" Bullard rapid production, with one swivel and one turret hd., 80%.	16'-16" Betts, 2 swivel & 1 center hd.
7' Betts, double head, 85%.	60" Niles, 2 swivel heads and one internal boring head.

#### BORING MILLS—HORIZONTAL.

No. 35-A Landis, floor type, horizontal, 90%.	No. 36 Landis, floor type, 3 1/2" bar, 80%.
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#### DRAW BENCHES.

15,000 lbs. to 25,000 lbs. Waterbury-Farrel, United Engineering and Standard; 20" draw, with 18' extensions for mandrels, heavy cast iron; 85%.

#### DRILLS—MULTI-SPINDLE.

4-spindle 20" Barnes, 85%.	4-spindle Barr sensitive, 85%.
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#### DRILLS—RADIAL.

4' & 5' Bickford.	No. 1, 8' wall radial.
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#### DRILLS—UPRIGHT.

24" Cincinnati, slid. hd., fric. bk. gra.	32" Cincinnati, with tap. att., 75%.
28" Cincinnati, sliding head, 80%.	24" No. 25 Foote-Burt, 90%.

#### FORGING MACHINES AND BULLDOZERS.

1, 2, 3, 4 & 5 Bulldozers.	250-ton Mesta steam hydraulic, 85%.
1", 2" & 4" Forging machines.	

#### GRINDERS.

No. 3 Brown & Sharpe univ., 70%.	18x96" Norton plain, 75%.
10x36" Modern univ., and parts, 70%.	Mammoth shear blade grinder, capacity 100" long.
84" Diamond surface, 85%.	
No. 4 Gardner, motor, disc, 85%.	

#### HAMMERS.

No. 2 Nazel, air, arranged motor dr.	1500-lb. Waterbury-Farrell, board drop, 80%, (2).
100-lb. Bradley, helve, 75%—90% (3).	2000-lb. Waterbury-Farrell, board drop, 80%, (2).
350 lb. Bement Miles, steam forging.	2500 lb. Bement-Miles, stm forging.
800 lb. Bement-Miles, steam forging.	8000 lb. Chambersburg, stm. forging.
800-lb. Billings & S., board drop, 75%.	800-lb. to 4000 lb. Chambersburg and Massillon steam drop hammers.
800-lb. Waterbury-F., board dr., 75%.	
800 lb. Lane, steam forging.	
1500 lb. Lane steam forging.	

#### LATHES.

16" to 20" tool room, various lengths.	32"x32" Bridgeford, comp. rest, m. d.
20"x10" Prentice, geared head, 85%.	36"x44" Bridgeford, c. r., m. d.
25"x12" LeBlond heavy duty.	48"x26" Bridgeford, grd. hd., t. a., 85%.
27"x22" Bridgeford, pl. turning, m. d.	54"x34" Houston, Stanwood & Gamble, geared head, motor drive.
30"x22" Bridgeford, pl. turning, m. d.	60x36 Houston Stanwood Gamble.
32"x18" Schumacher, cone head, 60%.	

#### MILLING MACHINES.

Style "B" Gooley & Edlund, 80% (2).	Becker miller, model "C," table
No. 2 Cincinnati plain, 80%.	14"x54", motor drive, 85%.
No. 3 Brown & Sharpe, plain, 65%.	60"x42"x16" Ingersoll, fixed rail, 4hds.
No. 3B Brown & S., pl., heavy, 60%.	

#### PLANERS.

30"x30"x8' Gray, single head, 80%.	72"x72"x16' Betts, four heads, 90%.
48"x48x18' Pond, 4 heads, heavy duty.	60"x48"x16' Pond, 2 hds., old style, light pattern, 50%.

#### PIPE MACHINES.

No. 94 Merrill, capacity 2 1/2" to 8".  
2", 4" & 8" Jarecki, with dies and countershaft, late models, 85%.

#### PRESSES.

No. 57 Toledo trimmer, with side shear, 80%.  
Waterbury-Farrel trimmers. 60" flywheel, 80%, (2).  
59 1/2" Toledo, straight side, single crank, tie rod frame, 80%.  
No. 56 Consolidated, 4" stroke, 80%.

## SECOND-HAND MACHINERY

Cyril J. Bath & Co.—Continued

### PUNCHES AND SHEARS.

6x6 Hillis & Jones angle shear.  
 No. 26 Whitmore slitting shear.  
 No. 2 Hillis & Jones horizontal punch, 70%.  
 54" gap American ship punch, capacity 1" thru 1", 70%.  
 84" throat, Long & Allstatter capacity about 1" thru 1".  
 Kling Bros. horn press, 60" horn, flywheel 50" dia., 6 1/2" face.  
 48" throat No. 4 Southwark, capacity 2"x1 1/2".  
 60" throat No. 5 Southwark, capacity 1 1/2"x1 1/2".  
 36" throat style G, Cleveland, capacity 1 1/2"x9" flat or 2 1/2" round bars.  
 No. 6 Quickwork rotary shear, capacity up to 1 1/2" plate.  
 36" throat Lennox rotary shear, capacity about 1 1/2" plate.  
 No. 2 Garrison alligator shear.

### SAWS.

48" Newton cold saw, motor drive. | Power hack saws, 6" to 9".

### SHAPERS.

20" American, crank, belt, 80%. | 24" Walcott, crank, back geared, 90%.

### SLOTTERS.

48" Niles-Bement-Pond, motor dr. | 12" Sellers, 75%.

### TUMBLING BARRELS.

Several sets 18"x48" chill lined square, with roller bearings and exhaust.

### TURRET LATHES AND SCREW MACHINES.

21" Gisholt, standard model, 70%. | No. 3A Warner & Swasey.  
 3"x36" Jones & Lamson.

### MISCELLANEOUS.

Acetylene generator, Davis.  
 Blower, No. 4 Root, motor drive.  
 Blower, American, 9" fan, motor driven, 85%.  
 Blowers, Sturtevant, motor driven, 85%, (2).  
 Boring machine, for cylinders, portable, 4" bar, 7" feed, arranged for motor or engine drive, 75%.  
 Gear cutter, 36" Gould & Eberhardt, 60%.  
 Keyseater, No. 2 Davis.  
 Keyseater, No. 4 Mitts & Merrill.  
 Pyrometer, Brown.

## FOR SALE BY

Hill, Clarke & Co., Inc., 156 Oliver St., Boston 9, Mass.

### BORING MILLS.

Niles 53" vertical with two swivel heads. Excellent condition.

### PLANERS.

Whitcomb 17"x4'. | Gray 36"x36"x8' heavy pattern, spur  
 Putnam 22"x5'. | geared, one rail head, one right  
 Whitcomb-Blaisdell 24"x8', two rail | hand side head.  
 heads, (second belt drive). | Pond 36"x36"x16' two rail heads.

### ALLIGATOR SHEAR

Canton Fdry. & Mche. Co's No. 2 Alligator shear, cap. 1 1/2" round or square.

### SURFACE GRINDERS.

Brown & Sharpe No. 2. | Pratt & Whitney 12" vertical, 24"  
 Diamond No. 1, 24"x12". | feed.

### CUTTER AND TOOL GRINDERS.

Greenfield No. 1, latest model. | Norton No. 2, 24" auto feed.

### BENCH LATHES.

American Watch Tool Co's 7x32". | Stark No. 3, with grinding attach.

### PLAIN MILLING MACHINES.

Brown & Sharpe, No. 1 1/2 plain, cone drive.  
 Cincinnati, No. 2 and No. 3 plain, cone drive.  
 Milwaukee, No. 3B plain, single overarm, single pulley drive, one has vertical milling attachment.  
 Cincinnati No. 3 high power plain, constant speed drive type, arranged for motor drive.

### UNIVERSAL MILLING MACHINES.

Garvin No. 1, cone drive, geared feed thru gear box, excellent condition.

## SECOND-HAND MACHINERY

### FOR SALE BY

**W. P. Little Co.,**

**West 9th & Front Sts., Cleveland, Ohio**

#### LATHES.

14"x 8' LeBlond, q. c. g.

18"x 6' Bradford, q. c. g., t. a.

16"x10' Cincinnati, d. b. g., q. c. g.

28"x 8' Bridgeford, d. b. g., (new).

#### MILLING MACHINES

15" Cincinnati plain.

No. 13 Garvin d. b. g. plain.

8" Pratt & Whitney automatic.

#### PUNCH PRESSES.

No. 18½ Holden, o. b. i.

30" Geared arch press, old type.

S. G. 55 Ferracute double crank.

No. 14½ Williams & White, (2).

#### GRINDERS, INTERNAL AND EXTERNAL SURFACE.

No. 3 Modern universal.

16" Heald rotary surface.

14" Pratt & Whitney vertical surface.

No. 75 Heald internal, (8).

No. 6 Bryant internal, (2).

#### MISCELLANEOUS.

Air compressors, 4½"x4½" & 6"x6".

Angle shear, No. 7C New Doty.

Band saw, 30" Clement.

Bolt cutter, 2" Reliance.

Boring mill, Lucas horiz. 2½" bar.

Broach, 3-A LaPointe Hudson.

Cold saw, 20" Burke.

Hammer, 250 lb. Morgan steam.

Hammer, 50 lb. Bradley, compact.

Planer, 24"x10' Pratt & Whitney.

Screw mche., No. 1 Brown & S. auto.

Spline miller, 2" Pratt & Whitney.

Tumbling barrels, tilting, (2).

Partial list. Send us your inquiries. 150 other tools in stock.

### FOR SALE BY

**Wm. C. Johnson & Sons Machinery Co.,**

**1211-1223 N. 12th St.,**

**St. Louis, Mo.**

#### MILLING MACHINES.

No. 1½ Rockford plain.

No. 1 Knight vertical.

No. 12 Kemp Smith.

No. 33 Kemp Smith.

Nos. 0 and 3 Burke bench.

Whitney hand miller.

#### PLANERS.

30"x30"x 8' Cincinnati.

32"x30"x 7' Whitcomb.

36"x36"x10' Flather, 2 heads.

48"x48"x14' Gray, 2 heads.

#### LATHES.

14"x 6' Monarch, q. c.

15"x 8' Von Wyck, q. c.

18"x 8' Walcott.

20"x10' Lodge & Shipley.

24"x12' Bridgeford, q. c., heavy duty.

26"x13' Putnam.

24"x14' Economy, p. c.

30"x16' Schumacher & Boye, q. c.

#### DRILLS.

3' arm Carlton.

3½' arm Carlton.

4' arm Bickford.

3' Canedy-Otto post drill.

34" Aurora, sliding head.

38" Bickford, sliding head.

#### GRINDERS.

30"x84" Diamond face grinder.

5"x18" Ott.

10"x30" Ott universal.

6"x30" Pratt & Whitney plain.

No. 16 Brown & Sharpe, 10"x72".

No. 50 Gardner disc.

No. 2 LaSalle surface grinder.

Yankee twist drill.

#### MISCELLANEOUS.

Acetylene generator, 100 cu. ft. cap.

Air compressors, (6).

Belt lacer, large, Peerless.

Bolt cutter, 1" Landis.

Bolt cutter 2" Standard.

Bolt cutter, 3" Standard.

Boring machine, horizontal, No. 2

Pawling & Harnischfeger.

Bulldozer, 75-ton Lorie hydraulic.

Draw bench, Standard Mchry. Co.

Engines, Corliss, 75 to 200 h. p.

Gear generator, No. 5-A Lees-

Bradner, max. swing 14".

Hammer, 90 lb. Justice.

Hammer, No. 2-A High Speed.

Pipe machine, 16" Bignall & Keeler.

Post hammer, Pettingel.

Punch, No. 5 Long & Allst., 5" thrt.

Punch, No. 7 Long & Allst., 4" thrt.

Riveter, model A Schuster.

Screw machine, No. 6 Woods.

Screw machine, 3"x36" Jones & L.

Screw machine, 24" Gridley auto-

matic, 4-spindle.

Tapping machines, automatic No. 1

Garvin, (2).

Tilted turret lathes, Nos. 2, 3 and

4 Wood.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Niles-Bement-Pond Company,** 111 Broadway, New York  
 Located at our various factories

NOTE—All Motor-Driven Machines are for 220 volts, direct current.

#### PLANERS.

30"x30"x 6' Pond, 2 heads.	42"x12"x26' Pond, 4 heads, rev. mtr.
30"x30"x 8' Pond, 2 hds., rev. motor.	48"x48"x16' Pond, 4 heads, rev. mtr.
30"x30"x12' Pond, 2 hds., rev. motor.	50"x36"x22' Pond, 4 heads, rev. mtr.
32"x32"x10' Niles, 2 heads.	52"x36"x10' Pond, 4 heads, rev. mtr.
36"x36"x10' Niles, 4 heads.	54"x54"x23' Pond, 4 heads, rev. mtr.
36"x36"x12' Pond, 4 heads, rev. mtr.	60"x60"x20' Niles, 3 heads.
36"x36"x16' Pond, 4 heads, rev. mtr.	60"x60"x24' Niles, 4 heads.
38"x38"x10' Niles, 2 heads.	120"x120"x36' Belts, 4 heads, motor
42"x42"x12' Niles, 4 heads.	drive thru belts.
42"x42"x14' Pond, 3 heads.	

#### DRILLING MACHINES.

3½' Morris radial.	6' Niles univ. radial, motor driven.
5' Niles radial, motor driven.	8' Niles semi-univ. radial, mtr. driv.
6' Pond radial, motor driven.	8' Pond radial, motor driven.

#### LATHES

16"x 8" and 18"x8' Morris.	36"x12' Pond, triple grd., motor dr.
18"x10' Morris.	36"x17' Pond, triple grd., motor dr.
21"x 8' LeBlond, motor drive.	42" Pond forge lathe, motor driven.
22"x10' & 22"x12' Morris.	60"x26' Niles, cone head.
25"x10' LeBlond, motor drive.	72"x21' Pond, motor drive.
26"x10' Pond, motor drive.	8"x4½" Pratt & W. turret lathe.
26"x36' Pond, qk. ch., dbl. bk. grd.	1"x15" Pratt & W. turret lathe.
30"x14' Pond, quick change.	2½"x26" Pratt & W. turret lathe.
30"x25' Niles lathe.	3"x36" Pratt & W. turret lathe.
30"x23' Pond, qk. ch., motor drive.	28" Pond rigid turret lathe.

#### SHAPERS AND SLOTTERS.

16" Stockbridge shaper.	15" Bement slotter, motor driven.
26" Worcester crank shaper.	18" Bement slotter, motor driven.

#### MILLING MACHINES.

No. 3 Brown & Sharpe plain, motor driven.	Size C Becker vertical.
No. 3 universal.	No. 5 Brown & Sharpe vertical.
No. 5 Brown & Sharpe plain.	6"x48" Pratt & W. thread miller.
48"x48"x14' Bement slab miller, motor driven.	6"x80" Pratt & W. thread miller.
	6"x132" Pratt & W. thread miller.

#### GEAR CUTTERS.

5-A Lees-Bradner gear hobbing machine.	No. 4 Brown & Sharpe spur.
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#### VERTICAL BORING MACHINES.

18" Niles side hd. mill, motor dr.	10' Niles boring & turn'g mill, m. d.
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#### HORIZONTAL BORING MACHINES.

40" Morris, horizontal boring and drilling machine, 2" bar.  
 66" Bement horizontal boring and drilling machine, 4½" bar.  
 80" Bement horizontal boring and drilling machine, 5½" bar, motor driven.  
 60" Bement duplex control boring machine, 4" bar, motor driven.  
 Pond floor drill, 3" bar.  
 Niles boring, drilling and milling machine, 5" bar, motor driven.

#### MISCELLANEOUS.

Pipe machine, 2" Cox, motor driven.	Punch, No. 2 L. & A. 48" thr., 1" in 1".
Punch, No. 3 L. & A. horiz., ½" in ½".	No. D L. & A. dble. 36" thr., 3" in 1½".

#### CRANES AND HOISTS.

Electric Traveling Cranes, 220 Volts, Direct Current.  
 3-ton crane, 20' 2½" span.

#### MOTORS.

We have a large stock of new motors from 1 h. p. to 50 h. p., which are of the variable speed type, 220 volts, d. c., which we offer at attractive prices.

## SECOND-HAND MACHINERY

### FOR SALE BY

**McDonald Machinery Co., 1531-33 N. Broadway, St. Louis, Mo.**

Bolt threader, No. 734 Little Giant.  
Clock, electric time system.  
Demagnetizer, Walker.  
Drills, Leland-Giff'd 2-3 sp., h.s., b. b.  
Drills, 20", 24", 34" b. g., & tapping.  
Drill, Rockford horiz. boring & drill.  
Furnace, Holcroft 92 k. w. annealing.  
Hack saw, 4x4, 6x6 & 8x8 h. s.  
Lathes, Davis 22"x10", Bridgeford 27x9, Walcott 18x8, c. c.  
Milling mchs., Kempsmith Nos. 1 & 2; LeBlond No. 4 heavy plain; Ohio No. 20 pl.; 1 Knight vert. mill & drill; Becker "SD" vert., rotary table, 17200 lbs.; Cin'ti No. 3 plain.  
Planers, Sellers 36"x36"x23' 2 heads; Pond 42"x42"x16', 2 heads.  
Punch presses, R. & K. No. 3A inclin., 3" stroke; Swaine No. 40, arch; Bliss No. 24, double crank.  
Punches, Felber 1" in 1", and Slitt shear; Scully, 20" throat, 1" in 1".  
Saw, Nutter Barnes 6" cold.  
Shapers, 26" open side planing; 15" & 16" Smith & Mills; 15" Kelly; 16" Cincinnati; 16" Milwaukee; 7" Rhodes; 24" Walcott.  
Shears, 60" thrt. rotary slitting, (2).  
Welders, 20 k. w. spot, Toledo, (2).  
Welders, butt, Federal, 7" rds.

### FOR SALE BY

**The Washburn Company, 6126 S. LaSalle St., Chicago, Ill.**

Air compressor, 10x8 Ingersoll, serial No. 13931, with 36x72 tank,.....	\$300.	Lathe, speed,.....	\$ 20.
Blower, Garden City, 18" fan, brand new,.....	40.	Miller, No. 8 Kempsmith,.....	225.
Converter, d. c. & a. c., 10 k. v. a., 220 volt,.....	75.	Miller, B. & S., Lincoln type,...	100.
Cyanide furnace, Gilbert & Barker E-6,.....	60.	Plating barrel, 24" Hanson & Van W., center anode type,...	100.
Drill presses, 2-sp. bench (2) ea. ....	25.	Polishing machines, Hanson & Van W., with c. s., each,.....	15.
Drill press, upright,.....	25.	Press, foot,.....	10.
Emery wh. stand, 4", 2-spd. cone, .....	25.	Shaper, 16" Gould & Eberhardt, .....	175.
Feed water heater, boiler,.....	50.	Shear, alligator, opening of jaws 11" length of jaws 34".....	75.
Grinder, No. 1 Besly disc,.....	35.	Swaging mch., No. 2 Goodyear, .....	100.
Generator, Kester Electric, 5-10 volts, 1,000 amp., d. c.,.....	175.	Swaging machine, Dayton type, jaws 11x11/16,.....	60.
Hack saw, power,.....	20.	Time clock, Day time register, .....	75.
Hammers, 100 lb. poppet rope (2), each.....	100.	Turret lathe, small size,.....	40.
		Turret lathe, Garvin, 12" swing, .....	50.
		Turret lathe, b. g., p. f.,.....	100.
		Turret lathe, W. & S. No. 4,.....	150.

### FOR SALE BY

**The H. A. Smith Machinery Co., Syracuse, N. Y.**

Automatic, No. 53 National Acme 4-spindle.  
Automatic No. 55 National Acme 4-spindle.  
Automatic screw machines, No. 2 Brown & Sharpe, (3).  
Automatic screw machine, No. 0 Brown & Sharpe.  
Boring mill, 42" Gisholt, motor driven.  
Boring mill, 36" Gisholt.  
Chuckling lathe, Jones & Lamson automatic.  
Chuckling lathe, 12x6 Hartness automatic.  
Gear shaper, Fellows No. 62.  
Grinder, 6x32 Brown & Sharpe plain.  
Grinder, 10x72 Landis, plain.  
Grinder, 16x52 Landis, plain.  
Grinder, No. 11 Brown & Sharpe plain.  
Miller, Brown & Sharpe No. 13-B plain.  
Miller, Brown & Sharpe No. 5 vertical.  
Planer, 72"x54"x24' Pond, 4 heads.  
Planer, 36"x36"x24' Pond, 4 heads.  
Radial, 4' Hammond sensitive, with tapping attachment.  
Radial, 5' Fostick full universal.  
Turret lathes, 21" Gisholt, (3).



## SECOND-HAND MACHINERY

### FOR SALE BY

#### Marr-Galbreath Machinery Co.,

58 Water St., Pittsburgh, Pa.

Angle & bar bender, No. 9 Buffalo.  
 Bender & straightener, No. 4 H. & J.  
 Blowers, No. 3 Stur., pressure.  
 Blowers, pos. pressure, 5" outlet.  
 Bolt cutter, single, 14" Foote-Burt,  
 Landis head.  
 Bolt cutter, 14" Acme, triple head.  
 Boring mills, Rockford, 2" & 3" bar.  
 Boring mill, 36" Bullard, side head.  
 Boring mill, vertical, 72" Betts.  
 Boring mills, 51" Niles; 10'-16" Niles.  
 Boring mill, vertical 84", 2 heads.  
 Boring mill, 42" D. & H., 2 heads.  
 Boring mill, 12" Pond, 2 heads.  
 Brake or press, 10' Robinson, toggle.  
 Bulldozers, Nos. 4 & 27 W.-W.  
 Bulldozers, Nos. 7 & 8 Ajax.  
 Compressor, 8" x 8" Ingersoll-Rand.  
 Compressor, 1500 cu. ft., 1 R., steam.  
 Comp'r, 2500 cu. ft. L. D. G., a. c. mtr.  
 Compressor, steam, 864 cu. ft., Bury.  
 Compressor, 1300, 888, 599 cu. ft., m. d.  
 Crane, 40-ton Morgan, 67' span, 4  
 motors, 330 volts, d. c., new.  
 Crane, 15-ton, 60' span, 3 motors.  
 Drill, radial, 6' Baush, m. d.  
 Drill, radial, 5' Prentiss, t. a., m. d.  
 Drill, radial, 4' Western h. d., g. b., m. d.  
 Drill, radial, 4' American, gear box.  
 Drill, heavy gang, 4-sp., 12' table.  
 Drills, 36" Hofer; 24" Aurora, s. h.  
 Drill, 13" Washburn sensitive.  
 Drill, 30" Barnes, sliding hd., b. g.  
 Drill, 22" Aurora upright.  
 Exhausters, No. 8 Buffalo.  
 Filing machine, Rearwin die filer,  
 table 16 1/2" x 17 1/2".  
 Forging mch., 14" Acme, steel bed.  
 Forging machines, 1 1/2, 2 1/2 & 3".  
 Gear cutter, No. 11 universal Dwight  
 Gear cutter, No. 3 S. & C., auto. 1x1.  
 Generator, 100 k. w., 240 v., d. c., con-  
 nected to horiz. steam engine.  
 Generator, 85 k. w., 240 v., d. c., con-  
 nected to horiz. steam engine.  
 Grinder, No. 60 Heald internal.  
 Grinder, Diamond dbl. end, 14" wh.  
 Grinder, plain cyl., No. 12 Modern.  
 Grinders, No. 1 Cincinnati, c. & t.  
 Grinder, disc, No. 10 Besly, 18" wh.  
 Grinder, Yankee drill, style A.  
 Hack saw, 6x6 Peerless.  
 Hack saw, No. 5 Marvel, cap. 6x6".  
 Hack saw, No. 7-KC Atkins, 8x8.  
 Hammer, 100 lb., single fr., steam.  
 Hammers, sgl. fr., 350, 800, 1100, 1500.  
 Hammers, st. drop, 2000 lb. Bement.  
 Hammers, st. drop, 3000 lb. Ch'b'g.  
 Hammers, 40, 60, 100 lbs. Bradley.  
 Hammer, 125 lb. Bradley upr. strap.  
 Ice machine, 1-ton, with motor.  
 Lathe, 42" x 32" Am., gr. d. hd., m. d.  
 Lathe, 32" x 14", Draper, 3 1/2" h. s.  
 Lathe, 18" x 10" Porter, s. b. g., c. r.  
 Lathe, 16" x 8" Bradford, pl. change.

Lathe, 16" x 6" Piather, taper att., ch.  
 Lathe, 15" x 8" South Bend.  
 Lathe, 14" x 6" Monarch, q. c. g., t. a.  
 Lathe, 13" x 6" Star, q. c. g., chuck.  
 Lathe, 12" x 8" Reed-P., g. h., s. p. d.  
 Lathe, speed, 11" x 4" Prentiss, t-rest.  
 Miller, bench, No. 1 Burke, hand.  
 Miller, No. 3 1/2 Fox, hand, 24" x 6" x 14 1/2".  
 Miller, No. 0 1/2 Cin. pl., 18" x 6" x 15".  
 Miller, No. 3 Le Blond, pl. ind. hd.  
 Miller, No. 2 Kempsmith universal.  
 Miller, vertical, No. C4 Becker.  
 Miller, Hendey Lincoln No. 2 1/2.  
 Miller, Knight duplex, tbl. 8 1/2" x 32".  
 Miller, No. 0 Kempsmith universal.  
 Miller, No. 3 Cincinnati, plain 32" x 9 x 20.  
 Miller, vertical No. 0 & 1 Bickett.  
 Millers, hand, Whitney, (2).  
 Motor, 5, 3, 2 h. p., 1 phase, 60 cycle.  
 Oil separator, No. 2 Roper, belt.  
 Pipe machine, Oster 4", belted.  
 Pipe machines, 12", 6" & 2" Jarecki.  
 Planer, 120" x 120" x 36", 4 heads, m. d.  
 Planer, 74" x 54" x 24" Pond, 4 hds. m. d.  
 Planer, o. a., 72" x 72" x 18", 3 hds. m. d.  
 Planer, 60x60" x 12" Pond, 3 hds., m. d.  
 Planer, openside 42" x 42" x 16", 3 hds.  
 Planer, Powell, 42" x 42" x 16", 4 hds.  
 Planer, 42" x 36" x 20" Cin'ti, 4 heads.  
 Planer, 26" x 26" x 8" Niles, 1 head.  
 Planer, 24" x 24" x 5" New H., 1 hd.  
 Press, No. 10 Bliss o. b. i., bench.  
 Press, No. 11 Perkins, pl. trim., 4" str.  
 Press, No. 82 Consolidated horning.  
 Press, No. 16 horning, swing table.  
 Presses, No. 21 Bliss; 1 Toledo, o. b. i.  
 Punch, No. 124-A Niagara, 15" t., 1 1/2".  
 Punch & shear, hand, Schatz, 1 1/2".  
 Punch & s., No. 21., & A 30" tht., a. j.  
 Punch & shear, 14" & 72" tht., equal  
 No. 12 W. W.  
 Pyrometer, 32 to 3000 deg. F.  
 Riveter, 1" Shuster, style A.  
 Riveter, 80-A Grant, cap. 1 1/2".  
 Riveter, Allen, jaw. 36x20x1 1/2" rivets.  
 Rivet hammers, 4-A, 5-A, high spd.  
 Rolls, bending, 40" x 1", m. d.  
 Saw, cold, No. 18 Wagner, 16" saw.  
 Saw, cold, No. 11 1/2 Higley, 14" saw.  
 Shaper, 24" Stockb'dge, b. g. c., mod'n.  
 Shapers, 14" Steptoe; 24" G. & E.  
 Shear, single end, 9" throat, cap. 3 1/2"  
 round, motor drive, new.  
 Shears, Quickwork No. 6, m. d.  
 Shear, rotary, 1" Lennox, 8' gap.  
 Straightener, No. 2 Kane & Roach.  
 Testing mchs., 100,000, 200,000 lbs.  
 Tumbling barrel, Globe, 18" x 15".  
 Turret lathes, Nos. 1 & 2 W. & S.  
 Turret lathe, No. 4 Wood Tilted.  
 Turret lathe, No. 1 Bardons & O.  
 Turret lathe, Libby 21", motor drive.  
 Valve mche., 28" Pottstown, 3-w. m. d.  
 Valve tapper, 4" Pottstown, 3-w. m. d.  
 Valve tapper, 4" Pottstown, 3-spdl.

## SECOND-HAND MACHINERY

### FOR SALE BY

**The Reeve-Fritts Co., 555-560 W. Washington Blvd., Chicago, Ill.**

Die filer, No. 3 Barry, floor type.  
Drill, 16" Leland-Gifford.  
Drill, 22" Leland-Gifford.  
Grinder, No. 2 Bath universal.  
Grinder, 12" Besly, disc comp.  
Grinder, No. 1 Diamond, surface.  
Lathe, 11"x5" Barnes.  
Lathe, No. 3 Ames bench 8"x36".

Lathe, 14"x8" Hendey, q. c. g., taper.  
Lathe, 18"x8" Rahn-Larman, q. c.  
Lathe, 26"x12" Blaisdell.  
Lathe, 16" Drees universal Fox.  
Miller, No. 0 LeBlond, plain.  
Miller, No. 2-B heavy B & S. plain.  
Planer, 32"x24"x6" Rockford.  
Shaper, 12" Smith & Mills crank.

### FOR SALE BY

**D. C. Oviatt & Co., 1100 St. Clair Ave., Cleveland, O. PRESSES.**

Bliss Nos. 1 $\frac{1}{2}$  & 3 $\frac{1}{2}$ B, toggle.  
Bliss No. 2 double crank.  
Bliss "Stiles" Nos. 3 & 4.  
Bliss 68-C & 68-N double action.  
Bliss 73 $\frac{1}{2}$ , 74 $\frac{1}{2}$ , 75 $\frac{1}{2}$  presses.  
Consolidated 56, 65, 75, 165.

Swain No. 73 s. s. double crank.  
Toledo 55 $\frac{1}{2}$  trimming press.  
Toledo 59 & 59 $\frac{1}{2}$  s. s. presses.  
Toledo 92-B double crank, geared.  
Toledo No. 666 knuckle joint.  
Toledo 34-P, 35-P, 36-P presses.

### MISCELLANEOUS.

Automatics, Gridley 1", 1 $\frac{1}{2}$ ", 1 $\frac{3}{4}$ ".  
Bulldozers, W. & W. 2, 4, 6, 30.  
Drills, Colburn D-1, D-2, D-3.  
Drill, No. 17 Foote-Burt 4-spindle.  
Gear cutter, No. 3 B. & S. 26".  
Gear cutter, No. 3 B. & S. 36".  
Grinders, disc, Gardner 6 & 7.  
Grinder, Pratt & Whitney 14".  
Oil separator, No. 2 American.  
Rivet hammers, 2-A, 3-A, 4-A & 5A.  
Seamer, double, No. 3 Bliss.  
Seamer, double, No. 10-S Niagara.

Seamer, double, No. 6 Niagara.  
Shear, alligator, Canton No. 5.  
Shear, alligator, Hilles-Jones No. 2.  
Shear, Niagara 416-C slitting.  
Shear, Toledo 36"x18 ga. power.  
Tapper, Garvin No. 2 automatic.  
Tumbling barrels, 18"x30"x48".  
Turret lathes, W. & S. 4 and 6.  
Turret lathe, Libby 18".  
Turret lathes, Acme 3 $\frac{1}{2}$ "x36".  
Welder, Winfield, 2 pcs. 11 ga. cap.  
Wire former, No. 3 Manville.

Over 400 Machine Tools in stock. Send us your inquiries.

### FOR SALE BY

**McCoy-Brandt Machinery Co., 210-14 Penn Ave., Pittsburgh, Pa.**

Boring mch., 5" bar, Barrett horiz.  
Boring mill, 48" Colburn, 2 heads.  
Boring mill, 6" bar, Niles horiz.  
Boring mill, 10" Niles, 2 heads.  
Bulldozers, Nos. 5 & 30 W.-W.  
Bulldozer, No. 8 Ajax, 36" str., m. d.  
Drills, radial, 5" Prentice, s. p. d.  
Forging machines, 2" and 3".  
Grinder, 16"x68" Landis crankshaft.  
Grinders, 12"x48" Cincinnati plain.  
Grinder, Gisholt universal tool.  
Grinder, 36" Diamond wet tool.  
Grinder, No. 4 Gardner double disc.  
Lathe, No. 5 Rivett precision with turret, etc.  
Lathe, 16"x10" L. & S., cone, taper.  
Lathe, 19"x14" LeBlond, grd. hd.  
Lathe, 24"x26" American, q. c. g., m. d.  
Lathe, 27"x18" L. & S., m. d., t. a.  
Lathe, 30"x18" L. & S., m. d., t. a.  
Lathe, 36"x20" Sidney, q. c. g., cone.  
Lathe, 48"x26" Bridgeford, m. d.  
Millers, horiz., Nos. 3 & 5 Cincinnati.  
Miller, vertical, No. 0 Bickett.

Millers, Nos. 2, 5C & 6 Becker vert.  
Millers, vertical, No. 3 Brown & Sharpe, motor drive.  
Miller and driller, No. 1 Knight.  
Motor,  $\frac{1}{2}$  h. p. Wagner, 1-60-110, 1750 r. p. m.  
Pipe machines, 12", 10", 8", 4" & 2".  
Planer, 30"x30"x8" N. B. P., 1 head.  
Punch, multiple, No. 32 W.-W., ram 12" 2" long, 350-ton pressure.  
Planer, 30"x30"x8" Flather, 1 head.  
Punch, 36" Cleveland 1 $\frac{1}{2}$ "x1", m. d., arch, jaw.  
Punch, 24" Cleveland 1" x 1", m. d., arch, jaw.  
Riveter, 36" reach, 21" gap, 10" cyl.  
Rolling mills, 12" bar & 16" reduct.  
Rolls, bending, 16"x8" Wickes, m. d.  
Shears, guil., cap. 2 $\frac{1}{2}$ " and 2" and 1".  
Shear, rotary bevel, cap. 1", m. d.  
Slotter, 12" Newton, crank, cheap.  
Straightener, Abramsen, cap. 1" to 3" bars, m. d.  
Turret lathe, 18" Libby, like new.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Chas. Molitor Machinery Co., 118-124 S. Clinton St., Chicago, Ill.**

#### LATHES

- |   |  |
|---|--|
| 32"x19' New Haven, taper, older style.                  | 16" x 8' Monarch, q. c. g., sgl. pul. dr.                              |
| 24"-40"x12' Greaves-Klusman, gap.                       | 16"x10' & 16"x8' Pratt & Whitney, taper, draw, collets, relieving att. |
| 24"x10' Lodge & Shipley, grd. hd.                       | 16"x 8' Pratt & Whitney, q. c. g., taper, relieving attachment.        |
| 20"x10' LeBlond heavy duty, q. c. g., taper attachment. | 16"x 6' Walcott, q. c. g.  |
| 20"x 8' Monarch, q. c. g., dbl. g.                      | 16"x 6' Pratt & W., q. c. g., taper.                                   |
| 18"x 8' Morris, q. c. g., dbl. g., (2).                 | 15"x 6' Rockford, qk. ch. grd., taper, draw collet attachment.         |
| 18"x 8' Walcott, q. c. g., d. b. g.                     | 15"x 5' South Bend.  |
| 18"x 8' Sidney, q. c. g., d. b. g., (2).                | 12"x 5' Pratt-W., taper, draw collets.                                 |
| 18"x 8' Hamilton, q. c. g., d. b. g.                    | Porter-Cable, (2).   |
| 18"x 8' Bradford, q. c. g., d. b. g.                    |  |

#### MILLERS.

- |                                     |                                      |
|-------------------------------------|--------------------------------------|
| 24" Bullard vert. rapid production. | 24" Colburn vertical.                |
| No. 2 Kempsmith universal.          | No. 3 Kempsmith, gr. box fd., plain. |
| No. 1 Kempsmith plain.              | Cincinnati Lincoln type.             |
| No. 1 Brown & Sharpe plain.         | No. 2 Hendey, gear box feed, plain.  |
| No. 1 Rockford plain.               | Nos. 3, 4H, 5, 5A & 5C Becker, vert. |
| Nos. 3, 4 & 5 Becker vertical.      | Gooley & Edlund, production.         |
| No. 4 Cincinnati, single pulley.    | Pratt & Whitney thread miller.       |
| No. 5 Defiance horizontal.          | 24" Twin spline miller, P. & W.      |
| 24" Bullard vertical turret.        |                                      |

#### DRILL PRESSES.

- |                                     |  |
|-------------------------------------|--|
| 24" Baker Bros. heavy duty, (3).    | 4-spindle Allen, 4".                   |
| 24", 26" Aurora, Cincinnati, etc.   | Sipp's, with comp. tilting table, (2). |
| No. 3 Fox multiple, 16-spindle, 4". | 1, 2, 3, 6 sp. Leland-Gifford, 8" cap. |
| 2, 3 spdl. 24" Aveys, 1" cap. (3).  | Large variety 14", 16", 20" & 24".     |

#### GRINDERS.

- |                                     |                             |
|-------------------------------------|-----------------------------|
| Bryant internal and chucking, (6).  | No. 2 LeBlond universal.    |
| Nos. 2 & 3 Brown & Sharpe univ.     | 10"x36" Norton cylindrical. |
| No. 13 Brown & Sharpe universal.    | 4"x20" Norton cylindrical.  |
| Nos. 1 and 2 Cincinnati universal.  | No. 11 Brown & Sharpe.      |
| Cincinnati universal, 4"x57" table. | 40" disc, Gardner, Bealy.   |
| No. 1 & No. 2 Norton universal.     | No. 65 Heald cylinder.      |

#### SCREW MACHINES AND TURRET LATHES.

- |                                      |   |
|--------------------------------------|---|
| Jones & Lamson dbl., sgl. spindle.   | 1" & 1 1/2" cap. Acme, b. g., frict. h. |
| No. 2 Warner & Swasey pl. hand.      | 14" Gisholt, motor drive.               |
| No. 2 Brown & Sharpe semi-auto. (2). | Nos. 0, 1, 2, 3 Foster, Bard. & Oliv.   |
| No. 6 Foster, power long. & cross.   | 4", 3", 1 1/2", 2" Cleveland auto.      |
| No. 4 Warner & Swasey universal.     | 3 1/2" capacity Acme universal.         |
| No. 4 Warner & Swasey, screw mch.    | 16" & 18" Fox lathes, b. g., fric. hd.  |
| No. 6 Warner & Swasey, turret lathe. | New Britain auto. chucking mch.         |

#### PUNCH PRESSES AND SHEARS.

- |                                   |                               |
|-----------------------------------|-------------------------------|
| No. 3 Black & Johnson (3).        | 8" capacity slitting shear.   |
| No. 4 American, solid back.       | No. 3 Overmeyer sprue cutter. |
| 10' Niagara square shears, 20 ga. |                               |

#### GEAR CUTTERS.

- |                                     |                                  |
|-------------------------------------|----------------------------------|
| No. 12 Barber-Colman.               | Waltham automatic, (4).          |
| No. 13 Brown & S., bevel & spur.    | No. 10 Bilton gear hobbors, (4). |
| Nos. 1 & 1 1/2 Standard auto., (8). | 48" Brown & Sharpe spur.         |

#### MISCELLANEOUS.

- |  |   |
|--|---|
| Bolt cutter, 1" Landis.                | Broaching machines, No. 3B La-Pointe (2). |
| Bolt cutter, 1 1/2" Geometric.         | Corrugating machine, steel, 7"x36".       |
| Bolt cutter, 1" Acme, dbl. spindle.    | Keyseater, No. 1 Becker.                  |
| Bolt cutter, 1 1/2" Landis, double.    | Keyseater, No. 2 Davis.                   |
| Bolt cutter, 2-spindle 1 1/2" Landis.  | Reducing or straight, rolls, 6"x36".      |
| Bolt cutter, 1 1/2" Acme, double head. |   |

**HOW—** can our advertisers know that your inquiry comes from Hitchcock's Blue Book unless you tell them? When writing them, won't you kindly say that you saw it in Hitchcock's? Thank you.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Brown Machinery Co., - - - 2323 N. 9th St., St. Louis, Mo.**

Buffing lathe, Hisey 3 h. p. electric, a. c.	\$ 100.
Buffing lathe, U. S. 3 h. p. electric, a. c.	125.
Drill, Baush No. 3 multiple, cap. 30 spindles, rectangular hd. 20x40".	Price 1500.
Drill, radial, horizontal, No. 1 Barnes, d. e.	350.
Grinder, cylinder, No. 60 Heald.	850.
Grinder, No. 14 Gardner, b. b., disk, dry, 20" disks, good cond.	Price 400.
Grinder, No. 6 Besly two-spindle disk, 20" disks.	Price 350.
Grinder, one No. 2 Gardner single spindle, double disk, with universal tables; good condition.	Price 175.
Grinder, Bath universal.	750.
Grinder, LaSalle automatic surface, good condition.	Price 275.
Grinder, No. 1 Brown & Sharpe universal, 10x24; good condition.	Price 375.
Grinder, No. 14 Besly single spindle ring wheel.	Price 400.
Hammer, size A United, motor driven.	450.
Lathes, 16"x6" Monarch, heavy duty, each.	375.
Lathe, 20"x8" Reed.	300.
Miller, No. 1B Fox, hand & pwr. fd., 18x6x14; new, never used.	Price 400.
Polishers and buffers, drop head, New Britain, each.	50.
Press, geared, Stiles & Parker, weight about 9000 lbs.	
Punch & stake riveter, No. 3 Hilles & Jones 60" throat, rapid action; cap. full depth throat 4" in 7/16"; 16,000 lbs.; two stakes.	Price 1500.
Shear, Niagara 8', 18 ga., foot power, square, splendid condition.	Price 275.
Shear, Marshalltown No. 134 rotary splitting, cap. 4" plate; 4' throat; arranged for motor drive. Like new.	Price 750.

Many other bargains. Write for List No. 124.

### FOR SALE BY

**Fitzsimmons & Cole Machinery Company**

**1205 House Building,**

**Pittsburgh, Pa.**

Air compressor, Ingersoll, 6x6", b. d.	Press, baling hyd. No. 12-P Logemann
Air comp., Ing.-Rand, 9"x8", 144 c.f.	Press, No. 37½ Bliss, s. s., 3" stroke.
Bolt cutters, 1½" to 4" Landis.	Punch & shear, No. "A" L. & A., 2" thru 1½".
Boring mill, 62" Bullard, b. d.	Punch & s., Pels, type RBLUEF-26.
Boring mill, 84" Bickford, m. d., new.	Punch & s., No. 3½ H. & J., 1½ thru 1".
Boring mill, 120" Niles, b. d.	Punch, hor., Cleveland, 1" thru 1".
Die sinker, No. 3 Pratt & Whitney.	Punch, multiple, No. 3 Hilles & J., 120" between housings.
Drill, radial, 4" Mueller, m. d.	Riveter, Hanna, 70-ton, 18" reach.
Gear cutter, No. 13 Brown & Sharpe.	Riveter, Hanna 30-ton, 75" reach.
Gear planer, 24" Gleason, bevel.	Rolls, angle bending, 4"x4"x½".
Grinder, 16"x48" Landis, crankshaft.	Rolls, plate bending, 10"x4" Bertsch, motor drive.
Grinder, 16"x52" Landis, plain.	Rolls, plate bending, 16"x4" Cleveland, m. d.
Hammer, 200 lb. Bradley upright.	Sand blast, MacLeod, 36"x6".
Hammer, 100 lb. Mayer.	Shaper, 24" Cincinnati, b. g., m. d.
Hammers, 2-B, 3-B, 4-B & 4-N Nazel.	Shaper, 24" Stockbridge, b. g., b. d.
Lathe, 18"x 8' LeBlond, q. c. g., b. d.	Shear, alligator, Carlin., cap. 1½" sq.
Lathe, 36"x16" American, q. c. g., b. d.	Shear, alligator, No. 3 Canton, 2" square, m. d.
Lathe, 36"x18" American, q. c. g., b. d.	Shear, angle, L. & A., cap. 8"x8"x1½".
Lathe, 52"x34" Pitts'gh, 2 car., m. d.	Shear, guil., No. 3 H. & J., cap 2½" sq.
Lathe, turret, 5"x30" Bardons & O.	Shear, plate, No. 4 H. & J., 56"x4" cap.
Miller, No. 3-A Garvin plain.	Shear, Toledo, 10"x3/16" cap., m. d.
Miller, No. 4 Cincinnati pl., s. p. d.	Shear, Toledo, 12x3/16" cap., m. d.
Miller, univ., Oesterlein, 25½"x10".	Straightening roll, 9-roll, rolls 3x42".
Miller, Ingersoll slab 36"x36"x18".	Testing machine, 100,000 lbs. Riehle.
Pipe mch., No. 1-B Williams, ½ to 2"	Upsetter, 24" Ajax, steel bed, b. d.
Pipe machine, 12" Jarecki, b. d.	Welder, No. 20-A Thompson, butt.
Planer, 36"x36"x24" Pond, 4 hds., b. d.	
Planer, 48"x48"x14" Gray, 3 hds., b. d.	
Planer, 86"x96"x20" Pond, 4 hds., m. d.	
Planer, 120"x90"x27" Detrick & H.	
Planer, o. s., Cleveland, 36"x36"x16".	
Planer, o. s., Cleveland, 48"x48"x20".	

## SECOND-HAND MACHINERY

### FOR SALE BY

**The Whitman & Barnes Mfg. Co., 114 E. Buchtel Ave., Akron, Ohio**

Air hoist, special Curtis, with pendant and two geared trolleys.....	100.
Blower, P. H. & F. M. Roots Co. No. 2 rotary power.....	34.
Blowers, No. 3 American Gas Furnace Co., positive pressure, (2), each.....	100.
Blower, No. 5 American Gas Furnace Co., high pressure.....	175.
Centering machine, special, cap. of chuck 4".....	100.
Compressor, Nash Hytor, size 6, 4465 lbs. test, 360 r. p. m.....	900.
Cut-off machines, Warner & Swasey special iron frame lathe type, worm geared cross feed, (2), each.....	75.
Cut-off and pointing lathe, W. & S. 8"x36", 3-step cone dr. special chuck.....	25.
Drilling machine, turret, Whitman & Barnes special 12"x4" lathe type, 6-hole hand operated turret.....	30.
Exhauster, N. 4 B. F. Sturtevant vertical discharge "Monogram",.....	15.
Exhauster, No. 6 B. F. Sturtevant vertical discharge "Monogram",.....	20.
Facing machine, Whitman & Barnes special lathe type, hand cr. ss feed.....	35.
Filing machine, 12"x60" Whitman & Barnes special, foot control chuck.....	15.
Furnaces, double pot lead treating, Strong, Carlisle & Hammond No. 27, (2), each.....	150.
Gas producers, 300 h. p. Sharp-Bussett, for anthracite coal, complete with scrubber, (3), each.....	1,800.
Grinder, No. 12 Modern Tool Co., Erie, Pa., plain, complete with pump and overhead countershaft drive.....	345.
Grinder, 12"x30" No. 2 Brown & Sharpe universal, standard countershaft and all regular equipment.....	150.
Grinders, 6"x32" Norton Grinding Co. plain cylindrical, standard overhead drive, oil and dope pump and all regular equipment, (8), each.....	360.
Grinder, tool, Norton Co., bench type, single wheel, takes, 12" diam. by 1 1/2" thick wheel.....	20.
Hammer, 40 lb. Bradley cushioned helve.....	50.
Honing machine, 12"x5' Reed Co., lathe type.....	20.
Lathes, 16" Whitcomb & Blaisdell special taper turning, 8" swing over carriage by 30" between centers; complete with face plate, countershaft, etc., (12), each.....	250.
Lathes, 12"x4' Fitchburg Machine Works, back geared, plain turning, with rise and fall slide rest, taper turning bed and rod feed, (5), each.....	30.
Lathes, 12x5' Fitchburg Machine Works, back geared, plain turning—same as item above, (7), each.....	35.
Lathes, 14"x4' Fitchburg Machine Works, back geared, plain turning—same as item above, (2), each.....	30.
Lathes, 14"x5' Fitchburg Machine Works, back geared, plain turning—same as item above, (9), each.....	35.
Lathes, 12"x5' Fitchburg Machine Works hand or speed lathes, 4-step cone drive head, (7), each.....	15.
Lathe, 12"x5' Fitchburg Machine Works hand or speed lathe, 4-step cone drive head.....	15.
Lathes, 12"x4' F. E. Reed hand or spd. lathes, 4-step cone dr. hd., (3) ea.....	15.
Marking machine, No. 11 Dwight Slate, mf'd. by Noble & Westbrook, Hartford, Conn.....	55.
Milling machines, 34" Briggs (Gooley & Edlund, Inc.) style B high duty horizontal, (3), each.....	450.
Milling machine, No. 4 E. F. Garvin & Co. back geared plain.....	50.
Milling machine, 12"x6' Whitman & Barnes special lathe type hand miller.....	20.
Pointing lathes, Whitman & Barnes special, (2), each.....	15.
Pointing machine, Warner & Swasey 18"x5' lathe type, 1 1/2" capacity through spindle, hand wheel and slide rest.....	75.
Pump, special single cylinder force pump.....	7.
Spindles for bench grinding mches., Whitman & Barnes, iron frame(7).....	7.
Straightening presses, No. 2 Springfield, bench, (2), each.....	30.
Straightening presses, No. 60 Springfield, bench, (4), each.....	15.
Tempering furnace, No. 1-E-2015 Eaton electric, rotary, with 7"x10" drum, automatic temperature control switchboard, 440 volts, 60 cycle, all regular equipment.....	100.
Upsetting and forging machine, 14" Ajax Mfg. Co. universal, serial No. 2555.....	2,000.

## SECOND-HAND MACHINERY

### FOR SALE BY

**M. A. Wertman,** - - - **505 Superior Bldg., Cleveland, Ohio**  
 Blue print machine, 42" Peas auto.  
 Drill, 24" Aurora, m. d., tapping att.  
 Drill, No. 315 Baker heavy service.  
 Drill, 5-spindle Detroit automatic.  
 Grinder, 24" Ingersoll cutter.  
 Grinder, No. 3 Ohio univ. & tool.

Milling mche., No. 2 Rockford pl.  
 Milling mche., No. 2 Kempsmith pl.  
 Shaper, 28" Ohio heavy duty.  
 Planer, 24"x6' Gray, 1 head.  
 Screw machine, No. 4 Foster.

### FOR SALE BY

**Rosenfeld Machinery Co.,** - - - **942 W. Lake St., Chicago, Ill.**  
 Chain hoists, 1/2 to 12 tons, Yale &  
 Towne and Ford triplex.  
 Drill presses, all sizes.  
 Milling machine, vertical, Becker  
 model C. S.  
 Millers, hand, Van Norman No. 1.

Motors, a. c., all sizes, 3 ph., 60 cy.  
 Motors, a. c., 3 ph., 25 cy., 1/2 to 50 h. p.  
 Radial drill, 2" American.  
 Tumbling barrels, 2 compartments,  
 6"x15" each, for small work.

### FOR SALE BY

**The Strong, Carlisle & Hammond Co., Cleveland, O., Detroit, Mich.**  
**ENGINE LATHES.**

14"x 6' LeBlond, l. c. g. and chuck.  
 14"x 6' Hamilton.  
 14"x 8' Monarch, c. r., stand, pattern.  
 16"x 6' South Bend, c. r., complete.  
 16"x 8' Lodge & Shipley, old style,  
 c. r., q. c. g.  
 18"x 8' Prentice c. r., l. c. g., chuck.

18"x 8' American, 3-step cone, d. b.  
 g., q. c. g.  
 18"x 8' Schumacher-Boye & Emmes,  
 c. r., 3-step cone, s. b. g., q. c. g.  
 18"x10' Star, 4-s. c., s. g., with 16"  
 4-jaw ind. chuck.

**TURRET LATHES AND**  
 No. 2-A W. & S. g. h. tur. lathes.  
 No. 3-A W. & S. g. h. turret lathe.  
 26" Gisholt heavy duty turret lathe.  
 2"x24" Jones & L. g. h. flat turret.  
 No. 00 Brown & Sharpe auto., (6).  
 No. 0 Brown & Sharpe auto. (2).  
 No. 2 Brown & Sharpe auto. (2).

**SCREW MACHINES.**  
 No. 4 W. & S., p. h., a. c. & b. f.  
 No. 2 W. & S., p. h., a. c. and b. f.  
 No. 4 Warner & S., g. f. h., a. c. and  
 b. f.  
 18" Libby, factory rebuilt.  
 No. 2-G B. & S. automatics (3).  
 No. 2 B. & S. turret forming (2).

**DRILLING MACHINES.**  
 22 1/2" Cincinnati, sliding head, fric-  
 tion back geared, power feed.  
 24" W. F. & J. Barnes, sliding head,  
 back geared and power feed.  
 6' arm Western radial, with tap. att.,  
 arranged for motor drive.

24" Baker heavy duty.  
 12" Mechanics, friction driven.  
 14" 4-sp. Leland-G., h. s., b. b. (2).  
 14" 2-spdl. Avey, h. s., b. b., (2).  
 14" 3-spdl. Henry & W., h. s., b. b.  
 14" 4-spdl. Henry & W., h. s., b. b.

**MILLING MACHINES.**  
 No. 0 Bickett, hand, bench type (3).  
 Toledo hand milling machines (2).

No. 2-B B. & S. plain, constant s. dr.  
 No. 1-Y Brown & Sharpe plain.

**GRINDERS.**  
 No. 10 B. & S. plain, (2).  
 No. 6-A Bryant internal.  
 LaSalle combination pl. and surface.  
 No. 1 LeBlond cutter grinder.

Type "DE" Hisey-Wolf internal.  
 No. 11 B. & S. plain grinders.  
 Plain emery wh'l stand with column.

**SHAPERS AND PLANERS.**  
 16" Hendey friction, (2).

22"x22"x 5' Putnam planers (2).

**METAL CUTTING TOOLS AND SQUARING SHEARS.**

Higley cold saw.

3" new Davis cutting-off machine.

**GEAR CUTTERS AND HOBBS.**  
 26" & 36" No. 3 Brown & S. auto.  
 No. 18 G. & E. vert. for spur & spiral.  
 No. 3 Barber-Colman.

No. 13 Brown & Sharpe auto.  
 No. 12 B. & S., bevel, (2).

### HAMMER.

Quickwork body hammer.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Surplus Material & Machinery Co., 8735 Kercheval, Detroit, Mich.**

Bar shear, 24" capacity.  
Blue print outfit, Wagenhorst.  
Grinder, 12-42 Landis.

Hand screw machine, No. 4 W. & S.  
Turret lathe, 24 Davis.  
Turret lathe, 20 Milholland.

### FOR SALE BY

**A. F. Strafer, 30 Church St., New York City**

#### BORING MILLS, VERTICAL AND HORIZONTAL.

12" Betts, geared feed, belt drive.  
24" Bullard, v. t. l., New Era type.  
36" Bullard, side head, v. t. l.  
72" Niles-B.-P., heavy duty, m. d.  
72" Bullard, a. c. motor drive.  
12' Betts, heavy modern, m. d.

#### DRILLS, UPRIGHT AND RADIAL.

6' Mueller plain, d. c. motor drive.  
7'-6" & 5' Baush, belt drive.  
6' Cincinnati Bickford, full univ.  
D-3 Colburn heavy duty, s. p. d.

#### GRINDERS

No. 60 Heald cylinder, low price.  
6"x32" Norton plain.  
10"x36" Norton plain.  
10"x24" Landis plain, self contained.

#### GEAR CUTTERS.

36"x16" Newark, heavy duty.  
24x8" G. & E., vertical type.

#### LATHES

50"x36" Bement-Miles, t. g.  
50"x16" Fiffeld, belt drive.  
50"x30" Pittsburgh, h. d., q. c.  
44"x21" Niles-Bement-Pond, t. g.

#### TURRET LATHES.

34"x36" Acme, flat, modern, geared head, chuck equipment.  
18" Libbey, s. p. d., rapid traverse.  
24" Gisholt, motor drive.  
28" Gisholt, fine condition.  
24"x26" J. & L., bar equipment.

#### MILLING MACHINES.

No. 4 Cincinnati plain, cone type.  
No. 3 Kempsmith univ., cone.  
No. 2 Brown & Sharpe plain.  
No. 3 Brown & Sharpe plain, cone.

#### PLANERS.

12"x25'-4 h., belt drive (stone).  
30"x8" D. & H. open side, 2 heads.  
24"x24"x12" American, 2 heads.

#### PUNCHES AND SHEARS.

No. 6 Hilles & Jones, 42" throat.  
No. 4 Hilles & Jones, double, 48" throat, motor drive.  
No. 6 Quickwork, 4" capacity.  
No. 10 Quickwork, 60" t., cap. 14 ga.

#### MISCELLANEOUS.

Bending rolls, 4"x20" Hilles & Jones.  
Bending rolls, 4"x7" Wm. Sellers.  
Bending rolls, 4"x10" 6" Southworth.  
Bolt cutter, Landis, 1 1/2", double.  
Broaching machine, Nos. 2 & 3 LaPointe.  
Crane, 50-ton, 86' spar, P. & H., d. c.  
Drill chucks, 1" capacity, new.

## SECOND-HAND MACHINERY

### FOR SALE BY

#### Hoosier Universal Machinery Co.,

Goshen, Ind.

Centering machine, Whiton 2-spd.  
Drills, Minster No. 1D heavy duty.  
Flat turret, 3"x39" J. & L., 2-sp., new.  
Gear cutter, Cincinnati, spur.  
Gear hobber, Gould & Eberhardt.  
Grinder, Landis No. 1 universal.  
Horizontal boring, drilling and milling machine, Cleveland No. 1.  
Planer, 24"x24"x14' Chandler No. 10, single head.

Radial drill, 3' Am. Tool Works.  
Saw, metal, 13"x16" Peerless, motor drive.  
Screw machine, Defiance No. 4, new.  
Tooth rounding mche., Schuchardt & Schutte.  
Turret lathes, J. & L. 2 3/16"x36", bar and chucking.  
Turret lathe, P. & W., 1 1/2"x14" swing.  
Turret lathe, 24"x8 bed.

### FOR SALE BY

#### B. L. Saltzman,

524-526 W. Van Buren St., Chicago, Ill.

#### LATHES.

15"x6' Shepard, new, sgl. p., full g.h.  
18"x10' American.  
26"x12' Walcott.  
12"x5' Vernon, with taper att.

Pratt & Whitney turret lathe, 1".  
No. 22 Garvin screw machine.  
No. 1, No. 2, No. 3 and No. 4 Wood turret lathes.

#### MISCELLANEOUS.

Band saw, 32", Crescent.  
Beading & wiring machines, Yoder.  
Bolt threader, Wells, double head.  
Drill presses, 1, 2 & 3 spd., Allen 14".  
Drill press, 21" Champion, b. g. new.  
Drill press, 20" plain.  
Factory transmission.

Gap shear, 36" power, Niagara.  
Gear generators, Gleason.  
Hack saw, power, 6x6 Racine.  
Punch & shear, Niagara, 8" cap.  
Screw press, Newel, 7" throw.  
Shaper, Rockford 24".  
Steel brake 8", 16 gauge.

### FOR SALE BY

#### The O'Brien Machinery Co.,

113 N. Third St., Philadelphia, Pa.

Boring machine, 36" Bullard, turret head, vertical.  
Boring mill, 72" Bullard vertical, 2 heads, motor drive.  
Die sinker, No. 2 Pratt & Whitney.  
Drill, 32" Aurora, motor driven, tapping attachment.  
Drill press, D-1 Colburn heavy duty.  
Grinders, foundry, Norton heavy duty, (2).  
Hammer, 1000 lbs. Billings & Spencer board drop.  
Lathe, 22"x11" Lehmann, geared head, taper attachment.  
Lathe, 24"x12" Schumacher & Boye.  
Lathe, 36"x18" American, cone head, taper attachment.  
Lathe, 26"x44" with 24' bed McCabe double spindle.  
Lathes, extension bed gap, 25"—45"x14' Harrington, motor driven.  
Millers, Gould & Eberhardt continuous, (2).  
Milling machine, No. 3H LeBlond univ., with vert. and slotting atts.  
Milling machine, Newton combination circular milling machine and saw for structural work.  
Planer, 36"x16" Cleveland open-side, 2 heads.

Planer, 30"x30"x10' Whitcomb, 1 hd.  
Pipe machines, 2', 4', 6", 8" & 12".  
Oster, Cox, Williams, Eaton-Cole & Burnham and Jarecki makes, belt or motor driven, comp. stock.  
Planer, 36"x36"x12" Woodward & Powell, motor driven, 3 heads.  
Planer, 36"x36"x24", Bement, 4 hds.  
Press, No. 54 Toledo gr. str. side.  
Press, No. 73 Bliss trimming press, with side shear.  
Presses, Nos. 18, 19 and 20 Bliss.  
Punch and shear, No. 3 Hilles & J., dbl. end, motor dr.; punch end, 42" thrt., cap. 1 1/2" thru 1"; shearing end, 36" thrt., cap. 1" plate, 2 1/2" round, 7"x1 1/2" flat, 5"x5"x1" angle.  
Punch and shear, Pels combination; punching cap. 1" thick; shearing, 2" rd., 2 1/2" squares, 6x6x1" angles.  
Radial drill, 5' Pond, motor driven.  
Shaper, 24" Gould & Eberhardt, b. g.  
Shapers, 12", 14", 16", 21" and 24" stroke, assorted makes.  
Shaper, 3 Bement-Miles massive heavy duty, traveling head.  
Turret lathe, flat, 3"x36" Jones & L.  
Turret lathe, No. 64 Bardons & Oliver, 2 1/2" w. i. cap., cabinet base.



## SECOND-HAND MACHINERY

### FOR SALE BY

Mrs. Jacie Wills,

Box 44, Dover, Ohio

### CLEVELAND AUTOMATIC.

Cleveland Automatic, model A, 1½", brand new, never turned a wheel. Will sell for less than half of original cost to close an estate.

### FOR SALE BY

#### Reliance Machinery Sales Company

Brighton Road at Pennsylvania Ave.,

Pittsburgh, Pa.

Boring mill, 30" Bullard, 1 head.  
Boring mill, 34" Colburn, 1 head.  
Boring mill, 42" Bullard, 2 heads.  
Boring mill, 54" Bullard Maxi., m.d.  
Boring mill, 72" Betts, 2 heads.  
Brake, 60" D. & K., 14 gauge.  
Broach, Nos. 3&4 LaPointe (Hudson)  
Buffer, 2 h.p. U. S. Elec., 220-3-60.  
Bulldozer, No. 5 Williams & White.  
Chamfering machine, Warner & S.  
Die slotter, 3½" stroke, Garvin.  
Drill, 14" Leland-G. 6-spdl., m. d.  
Drill, 13" Fosdick 6-spdl. m. d.  
Drill, 16" Fosdick 6-spdl., m. d.  
Drill, No. 4 Foote-Burt 4 spindle.  
Drill, Reed, 4-spindle, cap. ½".  
Drill, Baush, 8-spindle, No. 3 taper.  
Drill, No. 30 Natco, 12-sp., No. 3 tap'r.  
Drill, No. 13 Natco, 16-sp., No. 3 tap'r.  
Drill, 20" Barnes, camel back.  
Drill, 21" Cincinnati, sliding head.  
Drill, 24" Hoefel, sliding head.  
Drill, 26" Barnes camel back.  
Drill, 36" Snyder, sliding head.  
Drill, No. 310 Baker heavy duty.  
Drill, Model F Turner auto. turret.  
Drills, 20" & 24" Foote-Burt, h. d.  
Gear cutter, 36"x10" G. & E., s. p. d.  
Grinder, type RA U. S. Electric.  
Grinder, type KKA U. S. Electric.  
Grinder, 20" Besly disc, m. d., 220-3-60.  
Grinder, Oliver drill, m. d., cap. ½".  
Grinder, No. 70 Heald internal.  
Grinder, No. 5 Bridgeport wet tool.  
Grinder, No. 3 Brown & S. univ.  
Grinder, 6"x32" Norton plain.  
Grinder, 12"x30" Modern plain.  
Hack saw, 6"x6" Peerless, belt dr.  
Hammer, High Speed, cap. 1/16".  
Hammer, 80 lb. Bradley cush. helve.  
Hammer, No. 4 Beaudry, mtr. dr.  
Lathe, 12"x 6" Seneca Falls.  
Lathe, 12"x10" Davis tool r'm. q.c.g.  
Lathe, 14"x 6" Seneca Falls, q. c. g.  
Lathe, 14"x 6" Hendey, tie bar.  
Lathe, 14"x 8" Whitcomb-Blaisdell.  
Lathe, 17"x8" Sidney, hvy. duty, q.c.g.  
Lathe, 18"x8" L. & S., q. c. g. m. d.  
Lathe, 18"x8" Rahn & Larmon, q.c.g.  
Lathe, 18x10" Reed, q. c. g., d. b. g.  
Lathe, 22"x10" Putnam, hvy. duty.  
Lathe, 26"x12" Bridgeford hvy. duty.  
Lathe, 27"x26" Schumacher-B., q.c.g.  
Lathe, 30"x12" Johnson, triple grd.

Lathe, 30"x16" New Haven, q. c. g.  
Lathe, 33"x12" Pond, triple geared.  
Lathe, 34"x12" LeBlond, triple grd.  
Lathe, 38"x50" New Haven, dbl. hd.  
Lathe, 42"x31" Pond, triple geared.  
Miller, No. 1 U. S., hd., complete.  
Miller, No. 2 Cincinnati h. p. vert.  
Miller, No. 2 Cincinnati plain, v. a.  
Miller, No. 3 Hendey plain.  
Millers, models B & C Becker, vert.  
Millers, Sellers, Lincoln type, (2).  
Millers, No. 25 Becker plain, (3).  
Pinion rougher, 36 BM Gould & E.  
Pipe machine, B. & K., ½" to 2", m. d.  
Pipe machine, Merrill, ½" to 6".  
Pipe machine, 8" Cox, cap. 2½" to 8".  
Pipe machine, Merrill, 2½" to 12".  
Pipe machine, 12" Cox, cap. 6" to 12".  
Pipe machine, 16" Cox, cap. 8" to 16".  
Planer, 24"x24" x 8' Gray, 1 hd.  
Planer, 36"x36"x8" Cincinnati, 1 hd.  
Planer, 36"x36"x8" Clevel'd openside  
Planer, 36"x36"x10" Pond, rev. m. d.  
Planer, 60"x60"x16" Betts, 3 heads.  
Planer, 72"x72"x18" Detrick & Harvey open side, m. d.  
Press, No. 10 Bliss, reducing, 4" str.  
Press, No. 23 Stoll, horning.  
Presses, Nos. 61 & 62 Bliss, o. b. f. w.  
Press, No. 87 Niagara screw press.  
Press, Ferracute DD2, o. b. f., cam.  
Press, No. 65 Consolidated, 5" str.  
Press, No. 168 Toledo toggle.  
Press, No. 305 Bliss straight sided.  
Press, 5-A & 13-A Bliss, toggles.  
Punch, Reade s. e. 4"x4", arch. jaw.  
Punch, Wickes, 48" thrt. cap. 1½"x1"  
Radial drill, 2' 6" Carlton high spd.  
Radial drills, 4' & 5' Prentice plain.  
Reduction gear, Foote, 50 to 1.  
Sand blast, Pangborn type EA.  
Saw, Williamson metal band.  
Saws, American metal sw., m. d., (2).  
Screw machine, Nos. 1 & 2 Warner & Swasey, plain head.  
Screw machines, No. 4 Warner & Swasey, g. f. h., power feed, (3).  
Shaper, 20" Cincinnati b. g. crank.  
Shaper, 24" Cincinnati b. g. crank.  
Shear, No. 2 Quickwork rotary.  
Shear, 72" Niagara, 14 gauge.  
Shear, squaring, 96" power, 20 ga.  
Tapping mch., 2" Baker, type F-4.  
Tapping mch., 8" Baker, type K-11.  
Tooth runder, 12" Rochester.

Our warehouse is full of bargains. What have you for sale?

## SECOND-HAND MACHINERY

### FOR SALE BY

**J. E. Haetten & Co., Inc.,** 50 Church St., New York, N. Y.

Automatics, 3-7" Cleveland model B, (40), each.....	\$ 100.
Boring mill, 48" Colburn, 2 head, geared feeds.....	600.
Boring mill, 10'-16" N. B. P., rapid traverse, 3 motors.....	17000.
Cranes, 25-ton N. B. P. 67" span, 4 motors each, like new.	
Drill, 4' Niles semi-universal radial, scarcely used.....	1500.
Engraver, E-3 Keller die sinker, motor, like new.....	900.
Generator, 300 k. w., Westinghouse Parsons turbo, jet condenser.....	1750.
Grinder, 50" Gardner No. 24, with exhaust.....	450.
Grinder, 10x36 Norton plain, serial 3500 (9) each.....	250.
Grinder, No. 85 Heald auto. cylinder like new (7) each.....	950.
Grinder, 15x15x10" Norton table type, surface, never used.....	1000.
Hammer, 200 lb. Gould & Eberhardt, drop.....	250.
Lathe, 50"x20" Putnam, single back geared, compound rest, good.....	600.
Miller, 11x40 work surface, Lincoln type, good condition.....	200.
Miller, 30"x20"x16" Ingersoll, 4 heads, A-1.....	2000.
Miller, No. 2 Cincinnati universal millers, g. h., with motors.....	1600.
Miller, No. 3 LeBlond universal millers, g. h., heavy motors.....	2250.
Miller, No. 2 LeBlond plain miller, g. h., heavy motor.....	1200.
Miller, No. 4 Pratt & Whitney vertical, g. h., heavy motor.....	2500.
Miller, 54"x20"x20" Ingersoll, 8 heads, a. c. motor 98%.....	6000.
Oil separator, 24" American, belt drive.....	100.
Planer, 120"x80"20" Niles, 3 heads, excellent condition.....	3000.
Press, 92B Toledo. 36" wide. 3 1/2 stroke, geared.....	1050.
Testing machine, Brinnell hardness, complete, P. I. & Machine Co.....	175.
Turret, 2x26 Cincinnati Acme, many extras.....	900.
Turret, 2x26 Pratt & Whitney, bar work, and motors.....	850.
Turret, No. 6-A Potter & Johnston, serials 15,700, very good (2), each....	500.

### FOR SALE BY

**Jones Machine Tool Co.,** 528-532 E. Front St., Cincinnati, O.

#### LATHES.

16"x 6' LeBlond, q. c. g.....	\$ 375.	20"x10' Lodge & Shipley, q. c. g. \$	850.
16"x 8' Hendey, q. c. g. & t. a. ....	975.	30"x12' Houston Stam., q. c. g. ....	750.
18"x 8' American, q. c. g.....	625.	26"x12' Reed, l. c., t. a.....	500.

#### MILLING MACHINES.

No. 1 1/2 Valley City universal.....	\$ 500.	No. 3 Cincinnati plain.....	\$ 950.
No. 1 1/2 Cincinnati universal.....	675.	No. 3 LeBlond plain.....	900.
No. 2 Hendey universal.....	775.	No. 3 B. & S. vert., s. p. drive.....	1250.

#### RADIALS AND DRILL PRESSES.

24" American, s. p. drive.....	\$ 675.	72" Drees, motor drive.....	\$1500.
42" American triple purpose.....	1750.	24" Hoefler, sta. head.....	175.
42" Gang, cone drive.....	375.	24" Rockford, sliding head.....	225.
48" Bickford, cone drive.....	475.	30" Cincinnati, sliding hd., t. a. ....	325.
72" Niles, cone drive.....	750.	42" Bickford, stationary head.....	225.

#### PUNCH PRESSES AND SHEARS.

No. 2 Niagara.....	\$ 140.	No. 4-Verdin, b. g.....	\$ 675.
No. 5 Niagara, b. g.....	475.	No. 85 Bliss, d. b. g.....	1500.
No. 2 Swain horn press.....	275.	No. 34 Toledo plain.....	550.
No. 6 Whiting, single end.....	475.	No. 516A Toledo sq. sh., 16 ga. ....	275.

#### PLANERS AND SHAPERS.

24"x 6' Powell 1 head.....	\$ 600.	16" Smith & Mills shaper.....	\$ 325.
30"x 6' Gray, 2 heads.....	850.	25" Smith & Mills, b. g.....	875.
30"x12' Gray, 1 head.....	975.	21" American b. g. shaper.....	775.
42"x26" Cincinnati, 2 heads.....	2250.	24" Kelly b. g. shaper.....	825.

#### MISCELLANEOUS.

Chain hoists, various sizes, (50).....		Hammer, steam, 800 lb. Niles \$	900.
Gear cutter, 26" Cinti No. 3.....	\$ 350.	Hammer, 100 lb. Bradley.....	275.
Gear cutter, 48" B. & S. No. 4.....	750.	Mill, 36" Bullard vertical.....	1500.
Gear hobber, 24" S. & S.....	550.	Mill, Lucas No. 21 horiz. 2 1/4" bar.....	1500.
Gear hobber, Barber-C. No. 12.....	1075.	Shaper, 36" Fellows No. 6.....	200.
Grinder, 10x50 Norton.....	475.	Slotter, 10" Niles vertical.....	500.

Write for our latest Stock List.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Little Giant Company,**

**Mankato, Minn.**

Direct from the User.

Drill, radial, 36" Hilbert.  
Grinder, No. 2 Landis.  
Grinder, No. 75 Heald internal.  
Jolt rollover mould. mch., No. 2 U.S.

Miller, No. 6 Whitney, hand.  
Planer, 48"x48"x16' Gray, Al cond.  
Rollover machine, 22" International.  
Shaper, 24" Smith & Mills.

### FOR SALE BY

**Herman L. Winterer,**

**943-53 N. Front St., Philadelphia, Pa.**

#### LATHES.

43"x17' 44" Bement-Miles.  
37"x14' Johnson d. b. g., q. c. f., t. a.  
32"x12' Pittsburgh, heavy duty, q. c. g.  
27"x12' Bullard.  
26"x11' Wickes, q. c. g.  
23"x10' Niles, q. c. g.  
25"x14' Hendey, q. c. g., taper attachment, oil pan, (2).  
24"x14' Porter.  
21"x8' LeBlond.

20"x8' 6" Walcott, d. b. g., c. g., (2).  
20"x8' Whitcomb Blaisdell, q. c. g.  
19"x10' Draper, patent head.  
18"x8' Davis, q. c., d. b. g.  
18"x7' Chard, d. b. g., semi q. c. g.  
18"x6' to 8' lathes, (6).  
16"x8' Greaves & Klusman, b. g., t. a.  
14"x8' Filsmith, q. c. g.  
14"-22"x6' Barnes extension gap.  
And many others.

#### TURRET LATHES.

34"x28" Pond, triangle.  
3x36" Pratt & Whitney, hollow hex.  
20x7' 6" Pratt & Whitney, back grd.  
20x7' Bridgeport, 24" h. s.  
19"x7' Fay & Scott, back grd.  
No. 224 Garvin Monitor.

No. 3 Kemp Smith.  
14"x6' Warner & Swasey.  
16"x6' Johnson, back grd.  
No. 3 Bardons & Oliver back grd.  
14"x5' 3" Pratt & Whitney, (2).  
No. 3 Foster Kimball.

#### DRILL PRESSES.

42" Gang radial, s. p. speed box.  
40" Barnes horizontal radials, (2).  
36" Bickford radial, circular base, motor driven.  
28" Rockford, q. c. g. feed, (2).

34" Barnes, s. h., geared face, comp. table.  
24" Sibley & Ware, sliding head.  
4-sp. type C. Taylor & Fenn, pwr. fd.  
Drill presses, assorted sizes.

#### MILLING MACHINES.

No. 5 Cincinnati, table 94"x50".  
No. 15 Garvin, table 12x42".  
No. 3 Becker-Brainard, new model, q. c. g., vertical attachment.

No. 3 Hendey-Norton, q. c. g.  
No. 5-C Becker vert., rotary table.  
No. 1 Milwaukee plain.

#### PLANERS AND SHAPERS.

12"x10'x25' Sellers planer, 4 heads.  
30"x30'x8' Putnam planer.  
48" Morton draw-cut shaper.  
33" Pedrick & Ayer, open side.  
16" Hendey shaper, shifting belt.

16" Potter & Johnston crank shaper.  
15" Lodge & Davis shaper.  
15" Potter & Johnston shaper.  
14" Warren shaper.

#### MISCELLANEOUS.

Boring mill, car wheel, 60" Newton.  
Boring, drilling and milling machine, 174" Bement Niles horizontal.  
Boring mill, No. 1 Sellers, horizontal, 23" bar.  
Boring mill, No. 3 Binsse, horizontal, 24" bar.  
Grinder, 13"x5' Landis universal.  
Grinder, disc, No. 17 Bealy.  
Hammer, 15 lb. Bradley helve.  
Hammer, 25 lb. Little Giant, m. d.  
Hammer, 40 lb. Bradley, helve.  
Hammer, 60 lb. Hotchkiss.  
Hammers, 60 lb. Bellefonte upright; 2  
Hammer, 500 lb. Merrill board drop.  
Hammer, 750 lb. Merrill board drop.  
Keyseater, 18" stroke Morton.

Molding machine, 24" Taber, with roll over.  
Punch presses, all sizes, (55).  
Punch, multiple, No. 5 H. & J., gate pat., 86".  
Punch & shear, No. 2 H. & J., dbl. end, 20" th. cap., 1 1/2" in 1".  
Punch, No. 2 H. & J., 15" th., arch. jaw, 1 1/2" in 1".  
Punch, single end, 31" th., arch. jaw, cap. 1" in 4".  
Punch, horiz., L. V., grd., cap. 1".  
Punch & shear, Industrial Wks. d. e., capacity 1" in 1"; shearing 4"x6".  
Riveter, air, 6" gap Allen, cap. 1 1/2".  
Slotter, 14" Niles.  
Tooth round'g mch., Schuchardt & S.

Large assortment of General Machinery. Send for Complete Price List.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Syracuse Supply Company. 314 W. Fayette St., Syracuse, N. Y.**

Guaranteed New Machines in original crates at prices below list:

Crucible, FD-104 Hoskins.  
Drills, 21" Canedy-Otto (2).  
Drills, 20" Buffalo (4).  
Drills, 36" Aurora sliding head (4).  
Drills, No. 11 Pratt & Whitney  
multiple, 16 spindles.  
Drills, No. 11 Pratt & Whitney  
multiple, 8 spindles.  
Grinders, No. 60 Heald (2).  
Grinders, Diamond wet tool.

Grinder, Churchill internal.  
Lathe, 10"x5' Monarch.  
Lathe, 14"x6' Monarch.  
Lathe, 14"x8' Monarch.  
Lathe, 16"x6' Monarch.  
Pipe machine, No. 70 Forbes.  
Screw mchs., No. 4 W. & S. g. f. h. (3).  
Straightener, No. 24 Corey.  
Tilted turret, No. 4 Wood.

### Exceptional values in Used Tools:

Cylinder borers, 6-spindle Moline  
adju-table No. 5, 36".  
Drill press, 25" W. F. & John Barnes.  
Drill press, 4-spindle Barr sensitive.  
Drill press, 3-spindle Barr sensitive.  
Drill press, 2-spindle Barr sensitive.  
Lathe, 14"x 6' American.  
Lathe, 14"x 6' Monarch.  
Lathe, 16"x 6' Hendey, rebuilt.  
Lathe, 16"x 8' American, geared  
head, rebuilt.  
Lathe, 16"x 8' Monarch.  
Lathe, 16"x10' American.  
Lathe, 28"x12' Draper.  
Miller, No. 5 Becker vertical.  
Miller, No. 2 Brown & S., rebuilt.  
Millers, No. 3H LeBlond plain (2).

Millers, No. 4 LeBlond plain (2).  
Planer, 30"x30"x16' L. W. Pond.  
Planer, 60"x60"x22' Niles.  
Press, No. 69N Bliss.  
Radial, 5' Pond.  
Radial, 4' Cin'ti-Bickford, GB-BD.  
Thread miller, 10" Lees-Bradner.  
Tilted turret, No. 6 Wood.  
Turret lathes, No. 4 Foster (2).  
Turret lathe, No. 2 Warner & S.,  
hollow hex.  
Turret lathe, 24"x26 Pratt & Whitney.  
Turret lathe, No. 24 s. g. Garvin.  
Turret lathes, 3x36 Jones & L. (3).  
Turret lathe, 2x24 Jones & Lamson.  
Turret lathe, 21" Gisholt.  
Turret lathe, No. 3 Cincinnati-Acme.

### FOR SALE BY

**Peninsular Machinery Co., 429-31 E. Jefferson Ave., Detroit, Mich.**

### LATHES.

13"x 5' Blount speed lathe.  
13"x 5' South Bend, (2).  
13"x 6' Willard, (3).  
13"x 6' Sebastian, (4).  
14"x 6' Carroll-Jamieson.  
14"x 6' Reed, l. c. g., (2).

16"x 8' Bradford, l. c. g.  
17"x8' LeBlond rapid product'n. m. d.  
21"x11' LeBlond, all geared, (2).  
21"x12' LeBlond line bearing.  
26"x10' LeBlond crankshaft.  
34"x36 Lo-Swing.

### DRILLING MACHINES.

3-spd. Henry & Wright, h. s., b. b.  
224" Sibley all-geared, p. l.  
28" Barnes, s. h., tapper.

25" Barnes 4-spindle gang.  
No. 3 Bausch multiple.

### MILLING MACHINES.

Briggs type A, (2).  
No. 32 Kempsmith.

No. 33 Kempsmith plain.  
No. 3H LeBlond plain, cone type.

### TURRET SCREW MACHINES.

14" Defance, f. h.  
24"x26 Pratt & Whitney, a. c.

No. 3 Foster f. h. turret lathes, (2).

### GRINDERS AND POLISHERS.

No. 50 Heald cylinder.  
20" Blount wet grinders.  
No. 15 Bryant, motor drive.  
No. 26 Besly, double spindle, m. d.

No. 4 Webster & Perks polishing.  
Bennett & O'Connell dbl. sp. pol.  
No. 23-B Valley City disc.

### MISCELLANEOUS.

Band saw, 6" Napier.  
Centers, bench, Brown & Sharpe (3).  
Cutting-off mchs., 4" Hurlbut-R., (2).  
Gear cutter, No. 13 B. & S., bevel.  
Gear generator, 6" Gleason, bevel.  
Gear generator, 18" Gleason, bevel.  
Gear hobber, No. 4 Farwell auto.

Gear tester, bevel, Gleason.  
Hammer, drop, No. 5 Williams-W.  
Lapping mchs., Bethel-Player, (2).  
Metal cutter, No. 1 Gray.  
Screw slotter, No. 1 National Acme.  
Tooth round's, 12" Rochester aut. (2).  
Tumbling barrels, No. 3-S Globe, (2).

## SECOND-HAND MACHINERY

### FOR SALE BY

**Clark Machinery Co., 1235-45 St. Clair Ave., Cleveland, O.**

Bolt threader, 2-spindle Acme, 14".

Boring mill, No. 2 Rockford.

Chuckling grinders, No. 6 Bryant.

Drill, 28" Barnes, b. g., p. f.

Lathes, 14" to 24".

Planer, 42"x42"x10' Gray, 2 heads.

Planer, 26"x26"x7' Gray, 1 head.

Punch press, No. 18 Bliss inclinable.

Punch press, No. 1 Sidney inclin.

Turrets, Warner & S. Nos. 4 & 6.

Machine tools for every purpose. Send us your inquiries.

### FOR SALE BY

**Tubor, Velick & Co., Inc., - - 628-630 W. Lake St., Chicago, Ill.**

**Telephones: Monroe 4199-6813. No Branches**

#### PUNCH PRESSES.

No. 4 American Can.

Bliss No. 19.

Consolidated No. 14.

No. 15 Torris Wold.

Perkins punch presses, 4" str. (20).

No. 15 single end punch.

Long & Allstatter horn punch, capacity 14x1.

#### DRILL PRESSES.

14" Excelsior.

20" b. g., p. f., new, \$130.

20" drill presses (40), each \$40.

26" Weigel.

30" Reed-Prentice.

Demco high-speed drills.

Bench type drills.

34" Hilbert radial.

34" Canedy-Otto radial.

#### MILLING MACHINES.

No. 2 LeBlond.

No. 2 Cincinnati universal.

No. 3 Kempsmith.

A number of hand millers.

#### LATHES.

11"x 5' Seneca Falls.

13"x 5' South Bend.

16"x 6' Hamilton, q. c., (2).

16"x 6' Sidney, q. c., (2).

16"x 6' Monarch q. c.

16"x 8' Canedy-Otto.

16"x 8' National, q. c.

17"x 9' Chard, q. c., (9).

18"x 6' Lehmann, q. c., (3).

24"x10' Canadian, q. c., d. b. g., (3).

22"x10' Cisco, q. c.

25"x10' Sidney.

26"x12' Prentice.

#### PLANERS.

24"x24"x 8' Putnam.

30"x30"x 8' Fitchburg.

30"x30"x12' Niles-B.-P., 2 heads.

36"x36"x 7' Flather, 2 heads.

#### SCREW MACHINES.

No. 2 Smith, hand.

Pratt & Whitney, hand, (3).

Nos. 1, 2, 3 and 4 Foster screw mchs.

#### GRINDERS.

Bath universal, with magnetic clk.

No. 2 Manhattan surface.

Gardner No. 6 disc grinder.

No. 14 Besly, disc.

Emery grinders, #2 and up.

#### WOOD-WORKING MACHINERY.

Band saws, 36" Famous, new, (10).

Boring mills, Andrew, (3).

Saw table and jointer combined, portable.

Glue jointer, Falls.

Shapers, double spindle, Whitney and Fay.

Swing saws, Porter, (4).

#### MISCELLANEOUS.

Buffers, U. S. and Westinghouse,

5 h. p., b. b.

Hack saws.

Lockers, steel.

Motors, 75 h. p. G. E., a. c., slip ring, 600 r. p. m., (2).

Motors, a. c. and d. c.

Paper cutter, 57" Oswego, & 5 h. p., fully automatic.

Pressed steel bench legs, (1,000).

Pressed steel hangers and bearings, all sizes.

Pressed steel stools, with backs.

Punch press, No. 3 Thomas.

Punch press, No. 3 Robinson.

Saw mandrels, #3.

Shaper, 16" Ames, b. g.

Shaper, 16" Kelly, b. g.

Shaper, 24" Kelly, b. g.

Thread hobber, Pratt & Whitney.

Time clocks, International.

Trucks—1,000 factory trucks.

Woodworking machines.

Leather belting. Pulleys, shafting and hangers.

## SECOND-HAND MACHINERY

### FOR SALE BY

#### McMullen Machinery Company,

Automatic, 8" Cleveland.  
Automatics, No. 00 B. & S.  
Band saw, 10" Napier, metal.  
Cut-off saw, No. 4 N. & B.  
Drill, 31" Barnes, sliding head.  
Grinder, Cleveland, profile.  
Grinder, No. 6-A Bryant.  
Lathe, 9"x21" Sundstrand, mfg.  
Lathe, 24"x26" Greenlee, flat turret.

#### Grand Rapids, Mich.

Miller, No. 2-H Becker vertical.  
Pipe mch., 6" Merrill No. 64.  
Press, Chicago scrap baler.  
Press, No. 3 Manville, d. a.  
Presses, No. 6 Manville, pillar, (3).  
Presses, No. 6B Manville, pillar, (2).  
Shear, No. 14 Pettingell, rotary.  
Shear, No. 2 W. F. Co. 36" gang.  
Welders, No. 10-A Thomson vert. (7)

Ask for Complete List.

### FOR SALE BY

#### A. M. Stoehr Machinery Co.,

Bolt cutters, 3 & 6-spindle Acme.  
Boring mills, 42" Baush; 54 & 60"  
Niles; all have 2 heads; and others.  
Compressors, 12 different sizes.  
Drill presses, single spdl., L. & G.;  
2-spindle H. & W.; 4-spdl. Foote-  
Burt; 4-spdl. Barnes; 22" Rockford.  
Gear hobbles, cutters; No. 12 Barber-  
C., 48" & 60" G. & E.; 36" Fellows  
gear shaper, and others.  
Grinders, No. 3 LaSalle plain and  
surface; 3x18" Norton, and others.  
Header, No. 2 Manville.  
Lathes, 22" to 44" McCabe; 18x8  
Barnes, hvy. duty; 19x8 LeBlond,  
q. c. g.; 16x8 Flather; 15 & 24 spin-  
ning, and others.  
Milling mchs., No. 25 Becker plain;  
No. 6 Whitney; No. 0 Rockford pl.;  
No. 3 Thurston dieing, & others.

#### 560 W. Adams St., Chicago, Ill.

Oil extractors, centrifugal, (8).  
Pipe machines, 6" Jarecki.  
Punch presses, No. 16 Bliss hornig;  
No. 58 Crosby; and others.  
Punch & shears, No. 3 L. & A., d. e.,  
4" thru 14"; No. 14 W., d. e., 15"  
throat, No. 66 Badger, hand;  
No. 1-C New Doty, and others.  
Riveters, 14-B & No. 5-A High  
Speed; No. 1 Townsend; No. 1  
L. & A., 4" capacity; and others.  
Saws, 9x9 Sterling high speed; 12"  
band, and eight others.  
Screw machines, Nos. 2 & 3 Foster  
(12); Nos. 52 & 53 Acme, others  
plain and automatic.  
Shears, Pittsburgh alligator, 14".  
Tapper, R. & S., 4" capacity.  
Welders, both spot and butt.  
Wire straightening machines, (5).

### FOR SALE BY

#### Cincinnati Machinery & Supply Co., 215 E. Pearl St., Cincinnati, O.

##### SHAPERS.

12" Juengst, complete, \$175.  
16" Cincinnati crank shaper.  
20" American crank shaper.

##### MILLING MACHINES.

No. 1 U. S. hand millers, (5).  
No. 2 Cincinnati plain, \$285.  
No. 3 Brown & Sharpe plain.

##### LATHES.

14"x 6" LeBlond, q. c.  
14"x 8" Lodge & Shipley, q. c.  
16"x 6" Reed, geared head, q. c.  
18"x 8" Monarch, \$325.

##### PLANERS.

24"x24"x 8' Gray, \$550.  
26"x26"x 8' Gray.

##### GRINDERS.

No. 60 Heald cylinder grinders.  
10"x20 Landis.

##### RADIALS.

3' Bickford, cone drive.  
3' Prentice, sgl. pulley, gear box.

Complete stock of machinery and supplies, new and used.

Write us your needs.

## SECOND-HAND MACHINERY

### FOR SALE BY

#### Foster Machinery Company,

10203 Quincy Ave., Cleveland, O.

Angle shear, No. 2 Cleveland, 4x4x1" angle.

Bolt cutter, 14" Acme.

Grinder, Greenard, tool & cutter.

Grinder stand, Western No. 4, two 14" wheels.

Lathe, 18"x8" Lodge & Shipley.

Miller, No. 00 Brown & S., hand.

Geo. A. Ohl, 8', 3/16" capacity, power.

Miller, No. 00 Owen, Fox type.

Press, No. 1 Consolidated.

Riveter, Hanna, 24" throat, 15" gap, 1" rivet.

Rivet hammers, No. 2-A, No. 4-A.

Shapers, 16" G. & E., (2).

Shaper, 16" Garvin.

### SQUARING SHEARS.

No. 210-A Pexto, power.

### FOR SALE BY

#### Brownell Machinery Co.,

150 Pine St., Providence, R. I.

### BORING MILLS.

No. 14 Beaman & Smith horizontal drilling, tapping, boring and milling machine, 3 1/2".

24" Bullard rapid production.

30" Baush vertical.

### GRINDERS.

No. 2 Brown & S. cutter & reamer.

No. 1 Norton univ. tool & cutter.

No. 2 Norton univ. tool & cutter.

Taylor & Fenn wet tool.

Mummert-Wolf-Dixon knife.

No. 12 B. & S. plain cylindrical.

No. 1 B. & S. universal cylindrical.

Sanford centerless.

### METAL CUTTING MACHINES.

No. 7-K Atkins Kwik-Kut hack saw 9x8.

13"x16" Peerless h. s. hack saw.

No. 2 Marvel hack saw.

No. 1 Burr cold saw.

No. 2 Burr cold saw.

### MILLING MACHINES.

No. 13 Garvin b. g. plain.

No. 2 Owen plain.

No. 3 Owen plain.

No. 4 Cincinnati plain.

No. 1 Van Norman duplex.

Type "A" Briggs manufacturing.

Whitney hand miller.

U. S. hand miller.

No. 3 Miller & Crowningshield hand, power feed.

### PLANERS AND SHAPERS.

48"x72"x20" Gray, 4 heads.

36"x36"x14" Gray, 4 heads.

30"x30"x 8" Bement-Miles, 2 heads.

28"x30"x14" Whitcomb-B., 2 heads.

24"x24"x 6" Powell, one head.

17"x28"x 4" Whitcomb-B., one hd.

17"x17"x 4" Whitcomb, one head.

15" Hendey friction shaper.

16" Ohio plain shaper.

### PRESSES.

Nos. 2, 3, 3 1/2 and 4 Greenard arbor presses.

No. 24 Atlas arbor press.

No. 1 Standard broaching & drawing press, 7".

No. 71 Bliss s. a. power press, 1 1/2".

McWilliams d. a. power press.

Adams Bros. s. a. power press.

100 lbs plain drop.

200 lbs. automatic drop.

### TURRET MACHINERY.

2x24 Jones & Lamson flat turret.

3x36 Jones & Lamson flat turret.

1 1/2x18 Pratt & Whitney, b. g., p. f.

No. 2-P P. & J. piston & piston ring.

1" Gridley 4-spindle automatics.

1" Gridley automatics.

### MISCELLANEOUS.

Broaching machine, No. 2 Lapointe (Hudson).

Filing machine, Thurston.

Marking mche. No. 6 Martin, hand.

Shaft straightener, Rockford.

Shear, McWilliams power rotary.

Slotter, 12" Bement-Miles.

Swaging machine, No. 2 Standard.

Swaging machine, No. 2 Excelsior.

### WOOD-WORKING MACHINERY.

Band saw, 36" Crescent.

Jig saw, No. 1 Beach.

Jointer, 16" Sidney.

Lathe, 20x8 Fay & Scott.

Saw table, No. 650 Dover.

Saw table, No. 2 Crescent, boring & hollow chisel mortising attachs.

Saw table, Rollstone double arbor.

Trimmer, No. 1 American univ.

## SECOND-HAND MACHINERY

### FOR SALE BY

**Wm. Menge,** (Retired from Business) **Dolgeville, N. Y.**  
**DRILL.**  
 26" Prentice Bros., sliding head, back geared, power feed.  
**PLANER.**  
 30"x30"x7' New Haven, 1 head, large chuck.

### FOR SALE BY

**Botwinik Brothers, Inc.,** - **67 Water St., New Haven, Conn.**  
**MILLERS.**  
 25-Pratt & Whitney 5" automatic, complete and in A-1 condition. Price  
 \$250.00 each, f. o. b. New Haven, Conn.  
 Wire, write or phone. Many other bargains.

### FOR SALE BY

**Boston Gear Works Inc.,** - **Norfolk Downs, (Quincy) Mass.**  
**ELECTRIC HARDENING FURNACE.**  
 One F. C. 206 Hoskins electric furnace for hardening high speed steel, complete with panel board, switches and ammeter. Wired for 550 volts, 75 amps. Used about 80 heating hours. Serial No. 9659.

### FOR SALE BY

**Scott-Bansbach Machinery Co.,** - **130 S. Clinton St., Chicago, Ill.**  
**Phone: Dearborn 3267.**

A bargain sale.

#### AUTOMATIC SCREW MACHINES.

No. 19 Brown & Sharpe, (11) each .....	\$ 550.
No. 60 Brown & Sharpe, (11) each .....	450.

### FOR SALE BY

<b>Bennett Machinery Co.,</b> -	<b>30 Church St., New York City</b>
Cold saw, 42" Newton, heavy.	Miller, univ., No. 2 Milwaukee, cone.
Drills, 14" to 30" Barnes and Rockf'd.	Miller, univ., No. 3 Hendey, cone.
Keyseater, No. 4 Mitts & Merrill.	Planer, 54"x12' Pond, 4 head, belt.
Lathe, 18"x 8' Hendey, yoke, q.c.g.	Plate planer, 18' Niles.
Lathe, 45"x28' Pond.	Radial, 4' Dreses, cone drive.

### FOR SALE BY

**Star Foundry Co.,** - **214 Front Street,** - **Albert Lea, Minn.**

Owing to changes in manufacture we offer:

Air compressor, 6"x6" dbl. cyl. Curtis, tank, 12 h. p. gas engine, 200' hose with couplings, one No. 80 Cleveland hammer, 1-1½ air drill, all mounted on steel truck, portable. Price.....	\$ 500.
Blower, cupola, No. 5 Sturtevant, with c. s. ....	50.
Boiler, 40 h. p. vertical, 120 lb. pressure. Price.....	100.
Bolt and pipe cutter, Wiley & Russell, ¾" to 1½" bolts, ¾" to 2" pipe. c.s.	200.
Drill press, 20" Champion, lever, wheel & power fd., bk. grs., with ck.	
Grinder, 36" knife, 16" wheel .....	75.
Grinder, Schmidt cyl., c. s., blower and hose .....	400.
Hammer, 200 lb. upright power .....	300.
Motor, 20 h. p. Gen. Elect., a. c., 220 v., 3 phase, 3600 r.p.m., with starter	
Planer, 48"x48"x14' Niles, 1 head, c. s. Price.....	500.
Set of Patterns, 6 sizes, flasks, jigs, blue prints for Star Power Hammers 1,200.	

Nearly all above machinery is under belt and can be inspected at our plant.

All are in good working order.



## SECOND-HAND MACHINERY

### FOR SALE BY

**The Cincinnati Bickford Tool Co., - Oakley, Cincinnati, Ohio**  
Machine Tool Bargains.

#### LATHES.

14" x 6' Von Wyck.	17" x 6' 3" Hamilton.
16" x 8' Bradford.	24" x 10' LeBlond.
17" x 6' Greaves Klusman.	30" x 16' Lodge & Shipley.

#### HORIZONTAL BORING MACHINE.

One special construction Bickford.

#### MISCELLANEOUS.

Gear cutter, 26" No. 3 Brown & S.	Gear generator, 15" Gleason.
Gear cutter, 36" Gould & Eberhardt.	Milling mche., No. 4 Cincinnati pl.

### FOR SALE BY

**Edward L. Klauber, - 320 South Third St., St. Louis, Mo.**

Bolt cutter, Landis sgl. sp., 14" cap.	Lathe, 15x7 South Bend, plain chge.
Bolt cutter, National, sgl. sp., 8" cap.	Lathe, 21x8 LeBlond hvy. duty, q. c. g.
Die head, Landis, new, cap. 2" pipe.	Lathe, 24x10 Lodge & S., q. c. g.
Drill press, 34" Barnes, tapping att.	Millers, No. 0 Burke, bench type.
Drill press, 24" Aurora, s. h., b. g.	Punch, Whitcomb, cap. 4x4" geared.
Drill press, Avey high speed.	Punch press, No. 3 Toledo, o. b. i.
Drill press, 3 spindle Dwight slate.	Punch press, No. 2 Toledo, o. b. i.
Gear hobber, No. 1 Farwell, 14" cap.	Punch press, No. 2 Rockford, o. b. i.
Grinder, Brown & S. No. 11 plain.	Radial drill, American 3' plain.
Grinder, B. & S. No. 3 cut. & reamer.	Radial drill, S. C. H. 42" post type.
Grinder, Besly No. 10 disc, ring wh.	Turret lathe, W. & S. No. 2 hol. hex.

## FOR SALE

- 5—No. 1 CINCINNATI Back Geared  
Plain MILLING MACHINES..... \$275.00 each.
- 3—3', AMERICAN Sensitive Radial  
Drills..... \$250.00 each.
- 2—36" BROWN & SHARPE Gear  
Cutters..... \$950.00 each.
- 2—12"x36" CINCINNATI Plain  
Grinders..... \$875.00 each.
- 2—No. 75 HEALD Internal Grinders \$425.00 each.
- 4 Spindle NATIONAL ACME Screw Machines
- 7—No. 52— $\frac{3}{8}$ " Capacity..... \$425.00 each.
- 3—No. 56— $2\frac{1}{4}$ " Capacity..... \$650.00 each.

**CINCINNATI AUTOMATIC MACHINE CO., Cincinnati, Ohio**

## NEW 3 PHASE MOTORS CHEAP. 3 H. P. \$57.50; 5 H. P. \$67.50

### LATHES

12"x 5' Cleveland, geared head.  
14"x 6' Carroll-Jamieson, new.  
14"x 6' Hamilton, grd. hd., motor dr.  
14"x 6' Monarch, quick change.  
14"x 6' Von Wyck, quick change gear, taper attachment.  
14"x 8' Sidney, double back geared.  
16"x 6' Hamilton, style B.

16"x 8' Sidney, double back geared.  
18"x 10' American, quick change.  
20"x 10' Hamilton, rapid production.  
24"x 24' Prentice, with raising block.  
25"x 12' Sidney heavy duty.  
28"x 8' Bridgeford, heavy duty.  
3x50" & 10x72" Fitchburg Lo-Swing

### TURRET LATHES and SCREW MACHINES

No. 4 Defiance hand screw machine.  
No. 4 Woods Tilted Turret.  
14" Mulholland.  
2x24 and 3x36 J. & L.

No. 3-B Foster, 5" capacity, new.  
Warner & Swasey No. 2.  
Nos. 52 & 56 National Acme auto.  
6" Gridley single spindle, automatic.

### SHAPERS

14" Niles, traveling head.  
14" Steptoe, crank.  
16" American, tool room.

16" American b. g. crank.  
16" O. & S. b. g. crank, new.  
25" Smith & Mills, heavy duty.

### PLANERS

22"x22"x 5' Cincinnati.  
24"x24"x 6' Gray.  
26"x26"x 10' Gray, 1 head.

30"x30"x 10' American, 2 heads.  
36"x36"x 18' Pond.

### PRESSES

No. 3-A Willard-A inclinable.  
No. 1 Toledo inclinable.  
Nos. 14, 2, 24 & 4 Robinson.

Emco, bench, for radio parts.  
No. 35 Niagara straight side.  
Perkins, dbl. housing, wt. 4,000 lbs.

### DRILLS and RADIALS

34' Silver, sgl. pulley, gear box dr.  
3' & 44' Morris plain gear box.  
4' Universal Radial Drill Co. plain.  
Electric drills, Black & Decker.

22", 24", 26", 28" and 32", sliding hd.  
20"-24" & 26" Barnes, all geared.  
4-spindle Reed sensitive.  
Electric drills, Thor, all sizes.

### MILLING MACHINES

No. 1 Kempsmith universal.  
No. 2 Kempsmith plain.  
U. S. and Whitney hand.  
No. 25 Becker plain, power feed.  
No. 3 Kempsmith univ. and plain.

No. 3 LeBlond, with vertical attach.  
No. 2 H Brown & Sharpe plain.  
Briggs type "A" high duty, 24x18 table.  
No. 7 Becker Lincoln type.  
Oesterlein 24x72x18 plain.

### GRINDERS

Nos. 1 & 78 W. & M. surface.  
No. 2 W. & P. 10x30 universal.  
6"x 15" Fitchburg plain.  
12x36 Cincinnati universal.  
12x42" & 16"x30" Landis plain.  
36" and 66" Yates plate.  
Perfection cylinder.

No. 60 Heald cylinder.  
Schmitt cylinder grinder.  
No. 3 Ohio universal & tool.  
No. 4 Gardner 20" double disc.  
No. 20 Bryant, chucking.  
Capital internal, new, 2"x2".

### MISCELLANEOUS

Band saw, metal, Klemm.  
Band saws, Napier 4"x4", 10"x10".  
Bending rolls, 7' for 1/2" plate.  
Boring mill, Colburn No. 3, tur. hd.  
Boring mill, 54" & 60" Colburn, 2 hds.  
Brake, 10", 18-gauge metal.  
Broaching machine, No. 1 LaPointe.  
Broaching machine, No. 3 LaPointe.  
Compressors, 6x6, 8x8 and 12x10.  
Drawing tables, adjust., 42"x6" top.  
Gear cutter, 26" No. 3 B. & S.  
Gear millers, Bilton No. 1, (5).  
Hammer, 40 lb. Bradley, helve.  
Hammer, 150 lb. Standard drop.

Oil separator, Springfield.  
Pipe machines, 2", 4" & 6".  
Pumps, Gould triplex, 6"x8" & 7x8".  
Punch & shear 1/2" by 1/2", 10" throat.  
Riveting hammers, type B, Nos. 2, 3, 4 & 5-A.  
Scale, 1500 lb. Toledo, dial type.  
Sceleroscope, Shore.  
Shear, No. 296 Robinson, 14 ga., 5'.  
Shear, No. 20 Quickwork, 30" throat.  
Shear, circular, Pettingell 60".  
Tapping niche, 1/2" Rickert-Shafer.  
Tapping machine, Acme 6-spindle.  
Threading mche., W. & P. 2-spindle.

**THE OSBORNE & SEXTON**  
**MACHINERY COMPANY**  
**COLUMBUS OHIO**

DEPT. H.

# JUST PURCHASED

(these two columns)

**The Following Batch of Good Tools Which  
a Large Machine Tool Manufacturing Corp.  
Had Been Holding as Reserve—Equipment  
Not Worn Out, Not Obsolete, But Reserve.**

- |   |   |
|---|---|
| <p>1—24"x24"x6' Whitcomb Planer, 1 head, second belt drive.<br/>1—24"x24"x8' Whitcomb, ditto.<br/>5—24"x24"x10' Whitcomb, ditto, second belt.<br/>2—24"x24"x10' Whitcomb, ditto, 2 hds.<br/>2—26"x26"x6' Gray Planer, 1 head, like new.<br/>1—24"x24"x6' Powell Planer, 1 hd.<br/>5—30"x30"x12' Pond Planers, 2 hds., including elec. equipment, reversing motor drive, 230 volts, d. c.<br/>3—NEW 30"x30"x12' Pond Planers, 2 hds., including elec. equipment, reversing motor drive, 230 v., d. c.<br/>1—42"x42"x26' Pond Planer, 4 heads, including elec. equipment, reversing motor drive, 230 volts, d. c.<br/>2—No. 5 B. &amp; S. Vert. Millers, A1.<br/>1—No. 4 Cincinnati Vertical Miller.<br/>1—No. 2 LeBlond Plain Miller.<br/>1—No. 2 LeBlond Universal Miller.<br/>1—No. 3 LeBlond Universal Miller, excellent.<br/>1—No. 0 Belt Feed LeBlond Miller.<br/>1—No. 2 P. &amp; W. Plain Miller, special cam cutter, fixture on table.<br/>2—No. 12 P. &amp; W. Lincoln Millers.<br/>8—5" P. &amp; W. Automatic Millers.<br/>4—No. 1 P. &amp; W. Power Millers.<br/>6—No. 2 P. &amp; W. Column Power Millers (2), with long tables.<br/>1—No. 4 Brown &amp; S. Plain Miller.<br/>1—No. 5 Brown &amp; S. Plain Miller.<br/>2—No. 2 Cincinnati Vertical Millers.<br/>1—Waltham Thread Miller, bench.<br/>1—6x132" P. &amp; W. Thread Miller.<br/>1—4x30" P. &amp; W. Cylindrical Grinder.<br/>1—P. &amp; W. Deep Hole Drill Grinder.<br/>1—No. 23 B. &amp; S. Cutter Grinder.<br/>1—Bryant Chucking Grinder.<br/>1—Yankee Drill Grinder.<br/>1—Washburn Drill Grinder.<br/>3—Standard Wet Tool Grinders.<br/>1—No. 2 Besly Disk Grinder.<br/>3—No. 16 Blanchard Surface Grinders, floor motor drive.</p> | <p>1—Taylor &amp; Fenn Wet Tool Grinder.<br/>1—P. &amp; W. Special Contour Cutter Grinder for grinding form tools.<br/>1—Brown &amp; S. Wet Tool Grinder.<br/>1—Cincinnati Cutter Grinder.<br/>1—No. 2 P. &amp; W. Horiz. Traverse Drill.<br/>2—4 spdl. Allen Ball Bearing Drills, 12" overhang.<br/>8—3 spdl. Allen Ball Bearing Drills, 12" overhang.<br/>4—32" Aurora Drills, back geared, two with tapping attachment.<br/>3—26" Barnes Upright Drills, plain type, sliding head.<br/>1—42" Cincinnati-Bickford Drill, back geared, tapping attach.<br/>1—5" Niles Semi-Universal Radial.<br/>1—6" Niles Full-Universal Radial.<br/>1—Taylor &amp; Fenn High Speed Drill.<br/>37—10x5' P. &amp; W. Toolmakers Lathes, taper, draw-in.<br/>3—14x6' P. &amp; W. Lathes, pan bed, taper attachment.<br/>1—16x6' P. &amp; W. Lathes, with special circular table.<br/>1—21x10 LeBlond Lathe.<br/>1—Special P. &amp; W. Bench Lathe for Internal Grinding.<br/>3—No. 2 P. &amp; W. Screw Shavers.<br/>1—P. &amp; W. 4" Centering Machine.<br/>1—No. 24 P. &amp; W. Special Double Head Centering Machine.<br/>1—P. &amp; W. Cam Cutter for peripheral cams.<br/>1—No. 14 2-spdl. Profiler, nearly new.<br/>3—Nutter &amp; Barnes Cut-Off Saws, 8" capacity.<br/>1—16" Stockbridge Shaper, cone.<br/>5—No. 5 Greenard Arbor Presses.<br/>1—No. 3 Greenard Arbor Press.<br/>1—Barnes Horiz. Boring Mill, 7" table.<br/>1—Dwight Slate Marking Machine.<br/>1—Thompson Upright Polishing Stand.<br/>2—18" Gorton Disk Grinders.</p> |
|---|---|

## Simmons Machine Tool Corp.

**NEW YORK**  
149 Broadway

**ALBANY**  
1212 Troy Road

**BUFFALO**  
88 Exchange St.



## Machines of Quality

Several hundred used machines are stocked in our Cleveland warehouse.

Connected with this is a model machine shop devoted exclusively to rebuilding these machines.

Let us send you one of our circulars describing our methods, listing our stock and picturing our plant.

Upon receipt of your address we will forward these circulars periodically.

# New & Guaranteed Rebuilt Machine Tools

*At Prices to Net You a Worth While Saving*

## BORING MILLS

- 1—Landis No. 35 horizontal.
- 1—Gisholt 42" vertical, 2 heads.
- 1—Colburn 48", 2 heads.

## DRILLS—Upright and Radial

- 5—Sipp single spindle.
- 12—New 24" Sibley, upright.
- 2—Baker No. 310.
- 20—Rockford Aurora and Barnes, 20", 24" & 28" capacity.
- 2—New Turner No. 3, vert. tur.
- 1—Mueller 3½" Radial.
- 1—Baush 6" Radial.
- 1—N.-B.-P. 96" Ridgeway, motor drive, plain Radial.

## DRILLS—Multiple Spindle

- 1—Natco No. 30, 12 spindle.
- 2—New Baush No. 3, 21 spdl.
- 1—New Baush No. 4, 56 spdl.
- 1—Fox, 6 spindle.
- 1—Moline, 4-spindle.

## SCREW MACHINES—Automatic

- 12—Gridley 4-spdl., ⅞, 1¼, 1¾".
- 2—Gridley 4¼", 3¼" single spdl.
- 3—Gridley 2¼", 4-spindle.
- 8—Cleveland ⅞, 1¼, 2¼", A.
- 16—B. & S. Nos. 2 & 6 full auto.
- 1—Cleveland 7¼" A.
- 1—New Britain 1x5 bar mch.
- 10—New Britain Nos. 23, 24, 33, and 34.

## MILLING MACHINES

- 1—New Rockford No. 2½ Univ.
- 1—No. 1 B. & S. No. 3 Univ.
- 1—Cincinnati No. 2 Universal.
- 2—Rockford No. 1½; No. 2 Pl.
- 1—LeBlond No. 2½ Plain.
- 2—Brown & S. Nos. 2 & 4 Plain.
- 4—Cincinnati No. 4, s. p. d.
- 1—B. & S. No. 13-B Plain.
- 3—Becker Nos. 2H, 4B, Vertical.
- 6—Becker Nos. AB & 5C, Vert.
- 1—Milwaukee No. 1½-B vert.
- 1—Cincinnati 48" Duplex.
- 2—New Garvin No. 2 Duplex.
- 1—Newton Duplex.
- 1—Van Norman No. ½ Duplex.
- 2—P. & W. 4½x12 Thread.
- 1—Lees-Bradner No. 8 Thread.

- 8—P. & W. 6x14, 6x48, 6x80 Thread.

## GEAR CUTTERS

- 15—Barber-Colman Nos. 3 & 12.
- 4—Hercules 8".
- 7—Brown & S. 3x36; 3x26; 4x36.
- 1—Cincinnati No. 4-A, 4x48.
- 3—G. & E. No. 18-H.
- 1—G. & E. 60" spur.
- 20—Fellows Nos. 61, 6 & 615.
- 20—Gleason bevel, 6", 11" & 18".
- 1—Lees-Bradner No. 5A gear generator.
- 1—Ingle 12" tooth rounder.

## PLANERS

- 7—Putnam 26x26x8", 2 heads.
- 1—W. & P. 24x24x10".
- 1—New Cleveland 36x36x8".
- 2—Gray 38x38x20, 3 hds., mtr. dr.
- 1—Putnam 48x48x12", 2 heads.

## GRINDERS

- 1—Blanchard No. 16 Surf. m. d.
- 1—Brown & Sharpe No. 4 Univ.
- 1—Brown & Sharpe No. 14 Plain.
- 1—Springfield 12x12x48 Vert.
- 4—Cincinnati No. 2, 12x36.
- 7—Norton 6x32, 10x36 & 16x36.
- 1—Fitchburg 12x54.
- 12—Bryant Nos. 20 & 6 chucking.
- 2—Bryant No. 15 double spindle.
- 28—Heald Nos. 65, 60 and 70.
- 3—Heald Nos. 255 & 260.
- 1—Van Norman No. 34.

## TURRET and SCREW MCHS.

- 10—W. & S. No. 1 Wire Feed.
- 1—Warner & Swasey No. 3-A.
- 4—Foster No. 1-B Universal.
- 1—New Foster No. 10 Turret.
- 4—Greenlee 2¼"x26" Turret.
- 1—J. & L. 2-spindle Turret.
- 1—Libby 26".
- 5—Foster No. 4 Screw.
- 1—W. & S. No. 4 Universal.
- 40—B. & S. Nos. 0, 1, 2, 6, w. f.
- 1—Acme Fox Monitor.
- 1—W. & S. No. 6 b. g., p. f.
- 2—P. & W. 1x14" screw.
- 6—Potter & Johnston No. 6A.
- 6—Potter & Johnston No. 5-A.

Also 500 other tools, such as Shapers, Presses, Bolt Cutters, Broaching Machines, Hot and Cold Saws, Punches and Shears, etc.

**MOREY AND CO. INC.** 408 Broome St., NEW YORK, N. Y.

# Opportunity Knocks Again For the Conservative Buyer

## Real Values in Machine Tools—

### Lathes

- 1—48"x21' Pond (Plainfield) with motor.
- 1—44"x45' S W Putnam (Fitchburg) with motor.
- 3—32"x12' Pittsburgh.
- 1—30"x28' Pond (Plainfield) with motor.
- 1—24"x12' Reed Prentice, geared head, m. d.
- 1—20"x 8' Reed.
- 1—18"x 8' Reed.
- 1—18"x10' Schumacher & B., t. a.
- 2—18"x 8' Rockford semi q. c.
- 1—3½"x84" Lo-Swing, 2 carriages.

### Milling Machines

- 1—No. 2 Brown & Sharpe univ.
- 3—No. 2 Brown & Sharpe plain.
- 1—No. 2 Brown & Sharpe vertical.
- 1—No. 3 Brown & Sharpe plain.
- 1—Becker No. 5-B vertical.
- 1—Model AB Becker vertical.
- 2—No. 13-B Brown & Sharpe.
- 1—No. 2 Cincinnati, single pulley, plain.
- 1—U. S. hand miller.
- 1—Blomquist & Eck hand miller.

### Grinders

- 1—No. 2 Brown & Sharpe cutter.
- 1—No. 2 Brown & Sharpe surface, with mag. chuck.
- 1—No. 2 Brown & Sharpe univ.
- 1—Worcester internal.
- 1—21"x96 Norton plain.
- 2—10"x50 Norton plain.
- 2—Landis crankshaft.
- 1—No. 6 Gardner disc.

### Boring Mills—Vertical

- 1—10' to 16' Niles (Hamilton) with motor.
- 1—96" Niles.

### Boring Mills—Horizontal

- 2—No. 2 Rockford horizontal.
- 1—Blomquist & Eck horizontal.
- 1—Blomquist & Eck (original) horizontal.

### Planers

- 1—72"x72"x24' Detrick & Harvey, motor drive.
- 1—48"x48"x12' Putnam, 3 heads, with motor.
- 1—36"x48"x18' G. A. Gray, 2 hds. on cross rail, 2 side heads, 14 h. p. motor.
- 1—30"x30"x14' G. A. Gray, 2 hds. on cross rail, 10 h. p. motor.
- 1—24"x24"x6' G. A. Gray planer.

### Presses

- 1—S. 304 Ferracute.
- 1—150-ton high speed steam.
- 1—No. 108½ Cleveland punch press
- 1—78½ Bliss str. sided, 52000 lbs
- 1—No. 26 Toledo cam press.
- 1—No. 78½ Toledo.
- 1—No. 68 Stoll, straight side.

### Drill Presses and Radial Drills

- 2—D 2 Colburn.
- 1—26" Barnes.
- 1—34" Barnes.
- 1—3½' Fostick & Holloway radial
- 1—6 spindle Allen sensitive.
- 1—36" Aurora.
- 1—12 spindle Harrington.
- 1—6 spindle Foote-Burt.
- 1—Moline Hole Hog.
- 1—6' Niles radial.
- 1—2½' Mueller radial.

### Turret & Screw Machines

- 2—3¼" Gridley syle. apdl. autos.
- 2—Model B, 2" Cleveland autos.
- 3—Model B, 2" Cleveland auto-matics, New.
- 2—Model B, 1¼" Cleveland auto.
- 2—24" Gisholt turret lathes.
- 1—No. 6 Foster screw.
- 2—No. 4 Foster screw.
- 5—No. 4 Drees turret lathes.
- 1—18" Gisholt turret lathe.
- 1—21" Libby turret lathe.
- 1—No. 6 Warner & Swasey turret.
- 1—No. 2 Brown & Sharpe screw.
- 1—No. 1 Brown & Sharpe screw.
- 1—No. 4 Woods tilted turret.

**The EMPIRE MACHINERY EXCHANGE CO., Inc.**  
Offices and Warehouses: 2261 E. 14th St., Cleveland, Ohio

## **PUNCH PRESSES** Sheet Metal Machinery

- No. 169 $\frac{1}{4}$  Toledo toggle press, strokes 26 and 14".
- No. 58 $\frac{1}{2}$  Toledo st. side tie rod frame press, 14" stroke.
- No. 42 Robinson double crank geared press, 2" stroke, Like New.
- No. 20 Bliss inclinable, like new.
- No. 2 R. & K. Horn press.
- No. 16-A Niagara ring and circle shear, 14 ga. Circles to 60".
- No. 1 American Can gang slitter, 5 sets of hubs and cutters. Excellent condition.
- No. 621 $\frac{1}{2}$  American Can double seamer.
- Also beaders, foot shears, pan former, etc.

## **MACHINE TOOLS**

- No. 3 Cincinnati Millers, rebuilt, (3).
- No. 3 LeBlond Heavy Miller, vertical attachment.
- No. 6 Becker Vertical Miller, 60" table feed.
- No. 3 Kempsmith Plain Miller, excellent condition.
- No. 3 Pratt & Whitney Die Sinker, rebuilt.
- No. 4 Milholland Screw Machine, power feed to turret, 15 $\frac{1}{8}$ " capacity. Excellent condition.
- 20" Kelly B. G. Shaper, swivel table, New.
- 14"x6' Carroll-Jamieson Engine Lathe, double back gear, q. c., special price.
- No. 31 $\frac{1}{2}$  Van Norman Automatic Ball Race Grinder.
- 16"x48" Landis Crank Pin Grinder.
- 16"x96" Landis Plain Grinder.
- 5' Prentice Radial Drill.
- 300 Others, Planers, Drills, Lathes, Boring Mills.

**58"x56"x14' Gorton Planer, 4 heads, 35 H. P., General Electric, reversing motor drive, NEW, NEVER USED, at half price of a new one.**

**A. D. White Machinery Co.**  
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# MACHINE TOOLS NEW AND USED

## Prices Warrant Your Attention

14"x 6' American Lathes, q. c. g.  
18"x 8' LeBlond Lathes.  
18"x10' LeBlond Lathes, q. c. g.,  
taper attachment.  
34"x60" Lo-Swing Lathe, 2 carr.  
2"x24" J. & L. 2-Sp. Tur. Lathes.  
6A P. & J. Automatics.  
3' American sensitive Radial  
Drill, taper attachment.  
3" Pilton Bench Drills.  
No. 1 Pratt & Whitney 2-spindle  
Deep Hole Drill.  
5"x18" Ott Cyl. Grinder (NEW).  
No. 120 Gardner Disc Grinder.  
No. 10-18" Hesly Disc Grinder.  
No. C2 Becker Vertical Miller.  
No. 1 B. & S. Universal (old  
style) Miller.  
No. 2 P. & W. Pl. Head Miller.  
4" P. & W. Spline Miller.  
No. 25 Becker Plain Millers.  
Miscellaneous tools, such as cutters,  
emery wheels up to 36" dia., 3" face.

No. 1 Standard Hand Millers.  
Wisconsin Hand Millers.  
12" B. & S. Univ. Index Centers.  
14" Cin. Univ. Index Centers.  
10" Becker 3-sp. Index Centers.  
14" Becker Plain Index Centers.  
No. 4 I Nazel Hammer, m. d.,  
10 h. p. motor.  
No. 6 Fellows Gear Shapers.  
12" Ingle Tooth Rounder.  
8" H. & G. Threading Machine,  
with die head.  
No. 2 Rockford b. b. Bal. Tools.  
8" Reid Univ. Angle Fixtures.

### MOTORS

1-1 h. p. 220 v., d. c., 1200 r. p. m.  
1-2 h. p. 100/220-volt, 60-cy.,  
1-phase, 1750 r. p. m.  
5-10 h. p. 230 v., d. c., 650 r. p. m.  
4-15 h. p. 230 v., d. c., 350 r. p. m.  
5-20 h. p. 230 v., d. c., 650 r. p. m.

drills, reamers, magic chucks,

**BARBOUR, LOVE & WOODWARD, Inc.**  
Grand Central Terminal Bldg., NEW YORK CITY

## After our Inventory is a good time to buy

Air compressor, 1600 cu. ft. cap  
G. E., complete with 20 h. p.  
motor a. c.  
Bending roll, 110" H. & W. cap.  
16 gauge.  
Bolt cutter, No. 3-1" Capitol  
double head auto.  
Boring mill, 30" Colburn vert.,  
with 3-jaw combination chuck.  
Boring mill, 36" Bullard "New  
Era" vertical, with side head  
and 4-jaw chuck.  
Drill, slid. hd., 36" Snyder, comp.  
Drill, sensitive, No. 1 1/2 Avey 4-  
spindle, h. s., b. b.  
Drill, radial, 8' Dreses plain.  
Gear shaper, 36" Fellows.  
Gear cutter, No. 5-48"x10" B.  
& S. auto. (spur gears only).  
Grinder, plain, 12"x36" Modern.  
Grinder, surface, vertical No. 12  
Pratt & Whitney.

Grinder, universal, No. 1, 10x24"  
Brown & Sharpe.  
Hammer, bd. drop, 1200 lb. Bliss.  
Lathe, 28"x24" Schumacher &  
Boye, arrgd. for motor drive.  
Miller, No. 2 Clevel'd sgl. pul. dr.  
Miller, No. 3 Cincinnati, vert.,  
single pulley drive.  
Planer, 30"x30"x8' Cleve., 2 hds.  
Press, No. 512 Niagara s.s., s. b. g.  
Riveter, 30-ton Hanna vert., 75"  
reach, 18 gap, cap. 7/16" cold  
or 1" hot rivets.  
Saw metal, No. 12-B Higley.  
Shaper, 24" Potter & Johnston,  
with revolving table.  
Shear, 8' E. & K. sq. sh'r, cap. 10 g.  
Slotter, geared, 25" Niles.  
Turret lathe, No. 4 W. & S.,  
geared friction head.  
Turret lathe, 18" Libby, sgl. pul.  
dr., arrgd. for belted motor dr.

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551 W. Washington Blvd., Chicago.

78-80 W. Water St., Milwaukee



# What Will Be the Next Tool To Go Into Your Machine Shop?

Our long experience in manufacturing and selling New and Used Machinery puts us in a position to handle your Machine Tool requirements accurately and promptly and at the lowest cost consistent with the Highest Grade Machinery obtainable.

*We solicit your inquiries and promise you satisfaction.*

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## No other Tools like these on the Used Machinery Market

30" Swing x 40' Bed, Lodge & Shipley Quick-Change, Double Back Geared, Hollow Spindle, Single Pulley, arranged for Motor Drive.

80" Swing x 46' Bed, Putnam Lathe. All Steel Geared Motor Drive.

*Inspect them and get the "before moving price."*

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### J. J. McCabe's "2-in-1" Double Spindle Lathes

We have a few rebuilt "2-in-1" lathes. One of them, a 32"/54" Swing Lathe with a 14' Bed is exceptionally good. It has passed the tests of a new lathe and carries our same guarantee. The equivalent of two lathes for the price of one.

#### Other "2-in-1" Lathes in Stock

26/48" Swing x 12' Bed.

26/48" Swing x 22' Bed.

26/48" Swing x 28' Bed.

Some of our "Former Pattern"  
Lathes 24/40" and 26/44" Swing.  
Very low price.

### Planers

72"x72"x24' Niles, 4 Hds., Belt Dr.

48"x48"x30' Putnam, 4 Heads.

48"x48"x14' Pond, 2 Heads.

48"x48"x15' Sellers, 3 Heads.

26"x26"x 6' Niles, 1 Head.

### Boring Mills

8' Niles, 2 Heads.

72" Gisholt, 2 Heads.

50" Bullard, 2 Heads.

48" Gisholt, 2 Heads.

42" Baugh.

4 3/4" Bar Niles Horizontal.

4 5/8" Bar Bement Miles Horizontal.

2 7/8" Bar Bement Miles.

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**J. J. McCabe Lathe & Machinery Corp'n**  
SINGER BUILDING - - NEW YORK CITY

## NEW MACHINERY

- 1—No. 4 Baush Multiple Spindle Drill, 30x46" head, twenty-two 2" spindles.
- 1—No. 536 Newton Horizontal Milling Machine, table 20"x8'.
- 1—No. 25 Williams & White Bulldozer.

## USED MACHINERY

- 1—Bement-Niles Planer Type Slab Milling Machine, table 24"x8'.
- 1—No. 536 Newton Horizontal Milling Machine, table 20"x8'.
- 1—Midwest Centrifugal Pump, 500 gallons per minute, 210' head.
- 2—50 H. P. General Electric Vertical Motors for above pump, 1750 R. P. M., 60 cycles, 3 Phase, 440 volt.
- 12—Diamond Plow Share Grinding Wheel Stands.

## Oliver Chilled Plow Works

535 Chapin St., South Bend, Ind.

### FOR SALE BY

## The Co-Operative Machinery Co.

7514 INDIANA AVE., CLEVELAND, OHIO

Used Porter-Cable Mfg. Lathe, 9"x14", complete with counter-shaft, good condition	\$ 250.
Used Porter-Cable Mfg. Lathe, single pulley drive, high speed, practically new	275.
Used No. 12 B. & S. Plain Production Miller, good condition	190.
Used Grant Lincoln Type Geared Head Milling Machine, good heavy production machine	150.
Used No. 4 Crosby C type Punch Press, bolster plate, 21"x30", flywheel 33"x4", good condition	250.
No. 1 Garvin Screw Mch., 6" cap. thru collet, practically new.	195.
Used No. 6 Foster Screw Mch., motor driven, 220 volt. 3 phase, 60 cycle, bar feed & several hundred dollars worth of extra equipment. Good shape. Can be inspected under power.	675.
Used 4-spindle Barnes Drill, each spindle equipped with silent chain drive, capacity of standard 20" drill	250.
No. 2 LeBlond Plain Heavy Duty Mill, late type machine, good condition, may be inspected under belt	625.
No. 3 O. B. I. Toledo Press, practically new	325.
14"x8' Carroll-Jamieson Lathe, quick change gear, good cond.	325.
13"x8' Willard Lathe, semi-quick change, good condition, can be inspected under belt	250.
J. A. Fay Combination Saw Table, A-1 condition	225.
American two-spindle Shaper, A-1 condition	150.

**This Is Only A Partial List**

# Lowest Prices!

## and The World's Greatest Stock!

### LATHES

16"x 8" Bradford, q. c. g.  
18"x 8" Lodge & Shipley, s. p. d.  
21"x 12" LeBlond rapid production.  
30"x 16" LeBlond, q. c. g.

### PLANERS

22"x 22"x 5' Gray.  
30"x 30"x 10' Cincinnati.  
38"x 36"x 12' Powell.

### SHEARS

24" throat Morgan double end, capacity 5/16"x 24".  
Type RT Pels I-beam, 15" cap.  
No. 2 Bethlehem rotary, 3/16" cap.  
20" Mackintosh bloom.  
24" Chicago Foundry Co. alligator.  
5" Carlin alligator.

### GRINDERS

20"x 54" Diamond wet surface.  
16"x 68" Landis crankshaft.  
16"x 66" Landis universal.  
16"x 36" Landis universal.  
10"x 48" Landis universal.  
12"x 36" Fitchburg plain.  
No. 224 Diamond cyl. roll. plain.

### AIR COMPRESSORS (BELT)

58" Curtis vertical.  
67" Ingersoll horizontal.  
275' & 350' Gardner.  
464" Sullivan.  
950" Laidlaw.  
1750" L. D. & G.

### POWER HAMMERS

80-lb. & 500 lb. Bradley vertical.  
500-lb. Beaudry.

### STEAM HAMMERS

600, 800, 1000 and 1500 lb. sgl. frame.  
2000, 2500, 4000, 6000 double frame  
Bement and Chambersburg.

### BOARD HAMMERS

400, 600, 800, 1000, 2000, 2500 & 3000 lb.  
Pratt & Whitney, Bliss, Union and  
Chambersburg.

### COLD SAWS

90" Newton cutting-off.  
62" Newton cutting-off.  
36" Newton cutting-off.  
20" Newton cutting-off.

### LOCOMOTIVES

10"x 14" Baldwin 36" gauge.  
10"x 16" Vulcan 36" gauge.  
11"x 14" Vulcan 36" gauge.  
18"x 24" Baldwin 4-wheel saddle tank.

### BOILERS & SMOKE STACKS

250 H. P. Standard water tube,  
200 lb. pressure.  
250 H. P. Wickes vert., 200 lb. pres.  
150 H. P. hor. ret. tub., 100 lb. pres.  
500' of 18" Stack.  
72' of 36" with cast iron base and  
ladder.  
130' of 48".  
140' of 60".

### MISCELLANEOUS

Sull. Dia. Pros. Drill, 2" core,  
10-ton Morgan Elec. Crane, 73' span.  
15-ton Industry Locomotive Crane,  
38' boom.  
95-ton Bucyrus R. R. Type Steam  
Shovel.  
70-ton Bucyrus R. R. Type Steam  
Shovel.  
No. 6 American Can Co. O. B. I.  
Punch Press.  
72" Colburn Vert. Boring Mill, 2 hds.  
16" Betts Slotter.  
No. 7-H Becker Lincoln Type  
Miller.  
No. 24 Hendey Lincoln Type Miller.  
No. 2 Wood Tilted Turret Lathes,  
1" capacity.  
No. 4-B Williams & W. Bulldozer.  
2" Curtis Pipe Threading Machine.  
6" Saunders Pipe Threading Mche.  
7500-30,000 Gal. Storage Tanks.  
5000-Gal. Water Pressure Tank 75 lb.  
pressure.  
72,000-Gal. Steel Tower Tank 110'  
tower.  
7000-Gal. Acid Tank Cars.  
8000-Gal. Oil Tank Cars.

*Machinery Bulletin No. 209, describing our  
complete stock, mailed free on request.*

**HARRIS BROTHERS COMPANY**  
35th & Iron Sts., CHICAGO

# Are You Thinking—

Of installing a Radial Drill? If so, the following machines are REAL bargains:

- 1—2½' Standard type, heavy duty, MUELLER radial drill, gear drive.
- 1—3' Standard type, heavy duty, MUELLER radial drill, gear drive.
- 1—4' Standard type, heavy duty, MUELLER radial drill, gear drive.

**Prices will arouse interest**

*Write and Satisfy yourself*

**The Mueller Machine Tool Company**

Radial Drills and Lathes

ESTABLISHED 1902

CINCINNATI, O.

## POWER PRESSES

EXCLUSIVELY

### TOGGLE PRESSES

- 3—No. 1½ Bliss, Friction Clutch.
- 1—No. 4A Bliss, F. C. Tie Rod.

### STRAIGHT SIDE PRESSES

- 3—No. 55 Toledo, geared.
- 3—No. 55½ Toledo, geared.
- 2—No. D201 Ferracut.

### EMBOSSING PRESSES

- 3—No. 666 Toledo, 1000 tons.
- 2—No. EG 54 Ferracut, 400 tons
- 1—No. 5 Howard, 75 tons.

### ADJUSTABLE BED PRESSES

- 5—No. 2A, 3—No. 3A Bliss.
- 6—No. 83 Consolidated.
- Nos. 41, 42, 43 & 44 Toledo.

### DOUBLE CRANK PRESSES

- 4—No. 9A Z. & H. Tie Rod, 37" between uprights.
- 3—No. SG 52 Ferracut, geared, 40" between uprights.
- 1—No. 95¾ Bliss, geared 42½" between uprights.
- 1—No. S31 Ferracut, 33¾" between uprights.
- 1—No. SG79 Ferracut, geared, 100" between uprights.
- 1—No. 2 Bliss, 28" bet. uprights.
- 2—No. 202A & 202B Toledo, Gap.

**Over 1200 Presses in Stock**

*New Catalogue issued this month; write for it*

**Joseph HYMAN & Sons**

Richmond St. and Erie Ave.,

Philadelphia, Pa.

# Complete Liquidation Sale Of The Penfield Axle Company

We are discontinuing business and have for sale all of our Machinery, Motors, Precision and Laboratory Instruments, Plating Equipment, Machine Shop Accessories, Miscellaneous Factory Equipment, Manufacturing Supplies and Materials, Small Tools, Grinding Wheels, Office Equipment, Etc. Copy of Stock List with prices and Photographs of each item will be mailed on request.

## MILLING MACHINES

- |  |                                       |
|--|---------------------------------------|
| No. 2-B Milwaukee Universal (not used 25 hours.) | No. 6 (New) Whitney Hand.             |
| No. 3 Kempsmith Plain.                           | No. 1 Bristol Hand.                   |
| No. 2-A Hendey Norton Plain.                     | No. 3 Lees Bradner Thread Mills, (2). |
| No. 1 Kempsmith Plain.                           | No. 13 Brown & Sharpe Mfg. Type.      |
| No. 4-B Becker Vertical.                         | No. 32 Kempsmith Pl. Linc. Type. (2)  |
|  | Beaman & S. Front Axle Mills, (2).    |

## GEAR CUTTERS

- |  |                                   |
|--|-----------------------------------|
| No. 12 Barber-C., 2 $\frac{1}{2}$ " hole thru sp., (2) | No. 5-A Lees Bradner Gear Hobber. |
|--|-----------------------------------|

## GRINDERS

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 10"x50"-10"x36"-6x32" Norton Plain.  | LaSalle Combination Tool & Surface   |
| 10"x36" No. 2 Landis Universal.      | No. 40-BB Crown Polishing Lathes.    |
| Greenfield Univ. Tool & Cutter, (2). | Dumore Electric Tool Post Grinder.   |
| No. 3 Rivett Internal.               | U. S. Electric Tool Post Grinder.    |
| No. 14 20" Besly Disc.               | Wheel Hds. for No. 70 Heald Int. (2) |

## DRILLING MACHINES

- |   |                                      |
|---|--------------------------------------|
| Three ft. American Radial.                      | 10" W. F. & J. Barnes stationary hd. |
| 24" Superior Stationary Head.                   | W. F. & J. Barnes 3 sp., 9" Overhang |
| 22" W. F. & J. Barnes sliding head.             | 2-spindle Francis Reed sensitive.    |
| 22 $\frac{1}{2}$ " W. F. & J. Barnes 3-spindle. | U. S. Electric Bench Type, 6"        |
| 20" W. F. & J. Barnes stationary hd.            | Overhang, (2).                       |
| 20" W. F. & J. Barnes 3-spindle.                | No. 10 Bausch Sixteen Spindle.       |

## LATHES

- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| 24"x12" New Haven, semi q. c.     | 14"x 6" Hendey, taper and draw-in |
| 18"x 8" Hendey, taper, relieving, | attachments.                      |
| draw-in attachments.              | 11"x 4" Bond Speed Lathe.         |
| 18"x 8" American, quick change.   | 3 $\frac{1}{2}$ "x60" Lo-Swing.   |

## PRESSES

- |                                     |                            |
|-------------------------------------|----------------------------|
| No. 4 Bliss, Stiles type.           | No. 34 Toledo.             |
| No. 3 Bliss, Stiles type.           | No. 2 Foot Press.          |
| <b>SCREW MACHINES-TURRET LATHES</b> |                            |
| 24" Gisholt, (2) and 20"-22" Libby. | No. 7 2" Bardons & Oliver. |
| 3"x36" Jones & Lamson.              | 14"x8" Acme.               |

## MISCELLANEOUS

- |                                    |                                    |
|------------------------------------|------------------------------------|
| 24" American Shaper.               | 9" Bliss Drop Press or Belt Hammer |
| Rhodes Shaper and Slotter.         | 8"x36" Brown & S. Bench Centers.   |
| No. 2 J. N. Lapointe Broach.       | 10" Hendey Univ. Index Centers.    |
| No. 2 Knowles Broach.              | 10" Brown & S. Pl. Index Centers.  |
| No. 6-A Potter & J. Chucking Mch.  | No. 1 Root Rotary Pressure Blower. |
| 100 lb. Bradley Upright Helve Ham. | 2" Holton Cut-off Machine.         |
| No. 2 Grant Riveter.               | Wagonhurst Blue Print Machine.     |
| No. 2 Whiton Centering Machine.    | Prestolite & Oxwe'd Welding Torch  |
| No. 1 Whiton Centering Mch., (2).  | No. 1 Johansson Gauge Blocks and   |
| 8"x8" Bury Air Compressor, (2).    | Accessories and Limit Gauges.      |
| 6"x6" Peerless Hack Saw.           | Bausch & Lomb Photomicrographic.   |
| No. 2 Garvin Tapping Machine.      | Brinnell Hardness Testing Machine. |
| No. 2 Davis Keyseater.             | Prestwich Fluid Gauge.             |
| 4" Geometric Threading Machine.    | Hoskins Recording and Wall type    |
| Toledo type 7-C Butt Welder.       | Pyrometers.                        |

Bellevue, Brown & S., Gilbert & Barker, Stewart and Tate-Jones Furnaces. Complete Plating Equipment consisting of generator, tanks, conveyor, etc. Micrometers, Snap Gauges, Thread Gauges, Plug Gauges, Lathe Chucks, Drill Chucks, "C" Clamps, Air Hammers, Die Heads, Vises, Tool Steel, Strip Steel, Tubing, Cold Rolled Steel, Drills, Reamers, Milling Cutters, Emery Wheels, etc

## Penfield Axle Company, Peru, Ind.

## Good Machinery Bargains:

28" Gould & Eberhardt B. G. Crank Shaper.....	\$ 900.
No. 12 Barber-Colman Gear Hobber.....	950.
18"x96" Norton Plain Cylindrical Grinder.....	1100.
Automatic Mche Co. Threading Mche., very fine cond., complete	450.
Six-Spindle New Britain Automatic, 1½"x7".....	1200.
30" Cincinnati-Bickford Radial, 90%.....	795.
38" x 16½" Niles-Bement-Pond Lathe, with motor.....	1350.
42" x 20" Niles Triple Geared Lathe.....	1200.
48" x 28" Niles Triple Geared Lathe.....	1575.
6" Niles Universal Radial Drill.....	1100.
12"x5" Shepard Q. C. Lathe, with milling attachment. \$150.	
18"x6" Fay & Scott Lathe, \$175.	
42" Bullard Boring Mill.	
26"x26"x6" Gray Planer, 1 head.	
32"x32"x12" Pond Plr 2hd \$400.	
3" Lucas Horizontal Boring Mill.	
(3) 2B Brown & Sharpe Millers.	
Pratt & Whitney Thread Miller.	
Norton running balancing Mche.	
No. 4 Verdin Inclined Press.	
No. 20 Bliss Inclined Press.	
No. 6 Rockford Geared Press.	
50 Ton Lucas Forcing Press.	
Style A Long & Allstatte Punch & Shear, 2½"x1".	
28" Aurora Drills.	
Barnes 4-spindle Drill.	

More Than 300 Other Items Of Machinery In Stock

Norton-Broadway Machinery Co., Cincinnati, Ohio

## Forging Machinery

**Upsetters:**—1", 1½", 2", 2½", 3", 3½", 4".

**Bulldozers:**

Williams-White, No. 1, No. 2, No. 3, No. 4, No. 5, No. 7.

**Hammers:**

Bradley Cushioned Helve, 40 lbs. to 200 lbs., Upright  
from 30 lbs. to 500 lbs.

Steam Drop 1500 lbs. and 1000 lbs. and Crank Lift Drop.

**Single and Double End Punch Presses:**

All capacities in depths of throat.

**Trimming Presses:**—No. 10 and No. 12 Erie plain.

**Shears:**

Pels FV55, capacity 5".

Other Alligator and Bar Shears, capacities 1" to 5".

**Threading Machines:**

Single and double spindle from 1" to 3".

**Miscellaneous:**

Ajax and Acme Hot Saws and Burring Machines.

No. 1 and No. 3 Ajax Forging Rolls.

No. 19 53" Besly Vertical Spindle Disc Grinder.

No. 40 Quickwork Rotary Shear.

No. 1 Cleveland Horiz. Bending and Straightening Mche.

10x10 Curtis Air Compressor.

**Donahue Steel Products Co.**

204 N. Jefferson St.,

Chicago, Ill.

**SLIGHTLY USED**  
***BUT***  
**EQUAL TO NEW**

36" Gould & Eberhardt Spur and  
Bevel Gear Cutter.

No. 12 NATCO Multi - Driller, with  
10"x16" head, bored for  
twelve, equipped with seven  
1" and one 1¼" spindles,  
and tapping attachment.

10"x72" Norton Plain Cylindrical  
Grinder.

24" Milwaukee Back Geared Crank  
Shaper.

**Marshall & Huschart Machinery Co.**  
17 South Jefferson Street,  
CHICAGO, ILL.

## HI-GRADE SLIGHTLY USED EQUIPMENT

With as good as new money back guarantee

### PARTIAL LIST

#### Drill Presses

20" 4-Spindle Rockford.  
No. 17 4-Spindle Foote-Burt.  
No. 22 18-Spindle Natco.  
3' Cinti-Bickford Radial.  
4' American Sensitive Radial.

#### Grinders

6 x32 Norton Plain.  
10x36 Norton Plain.  
10x50 Norton Plain.  
No. 10 Brown & Sharpe Plain.  
Ingersoll Cutter.

#### Automatics

7/8" - 1 1/4" Cleveland Model A.  
2 3/4" - 3 3/4" Cleveland Model A.

#### Turret Lathes

1 1/2" Acme B. G., Friction Head.  
24" Gisholt.  
24" Bullard Vertical.  
No. 6 Warner & Swasey.  
No. 4 Millholland Universal.

#### Millers

No. 2 Hendey Plain.  
No. 3 Cincinnati Plain.  
28" Cincinnati Duplex.  
13-B Brown & Sharpe Production  
2-Y Brown & Sharpe Plain.

#### Miscellaneous

No. 12 Barber-Colman Hobbers.  
F-24 Badger Single End Punch.  
No. 3 LaPointe Double Broach.

*Send us your inquiries*

**Mid-West Machine Tool & Supply Co.**  
DAVENPORT, IOWA

## Surplus Machinery For Sale

No. 8 Duplex Becker Milling Machine.  
No. 1 Knight Milling and Drilling Machine.  
20" Double Spindle Rockford Drilling Machine.  
1-22" Libby Turret Lathe.  
1-No. 3 Broaching Machine.  
1-1/4" Capacity Grant Riveter.  
1-16" Hendey Shaper.  
1-8-Spindle Bosch Drilling Machine.  
1-No. 4 Foster Turret Lathe.  
1-21" Swing Greenlee Turret Lathe.  
2-30" Vertical Boring Mills.  
1-10"x72" Norton Grinder.

Prices and description furnished on request. We offer the above machinery together with a number of manufacturing specialties with established markets. Will close this out at bargains on account of changing our line of manufacture.

**The Will-Burt Company**  
ORRVILLE, OHIO



# Must Vacate Our Warehouse — Attractive Prices To Move Stock

<b>BORING MILLS:</b>	30" Warner & Swasey Vert., table 29" dia.....	\$200.
	36" Niles, 2 swivel heads, table 33" dia.....	800.
	36" 48" Bridgeport Extension, 1 swivel head....	325.
<b>GRINDERS:</b>	Webster & Perks D. E. Heavy Foundry Type, takes wheels 24"x4".....	\$ 50.
	Norton D. E. Heavy Foundry Type, takes wheels 24"x4".....	50.
<b>LATHES:</b>	19"x10' LeBlond, b. g., hollow spindle, motor drive, as is.....	\$150.
	21"x12' Johnson, hollow spindle, taper attach....	275.
	24"x16' 6" Johnson, solid spindle.....	375.
	26"x10' 6" Walcott Hvy. Duty Q.C.G., 7, ea.....	650.
	24"x6' Gisholt Turret, 6 1/4" hol. spdl., 2, ea....	950.
	3"x36" Jones & Lamson Flat Turret, as is.....	200.
	3"x36" Jones & Lamson Flat Turret.....	950.
	2 1/4"x24" Jones & Lamson Flat Turret.....	850.
<b>MILLING MCHE.:</b>	No. 3 Cincinnati Plain, table 12"x3'11", as is....	\$ 250.
<b>PRESSES:</b>	No. 2 Baird Ft. Power, 2 3/4" str., bench type, ea. \$	10.
	Straight Side Punch Press, 3/4" stroke, 10 1/4" bet. housings, mounted on iron stand.....	50.
	No. 56 Knuckle Joint Embossing Press, 60 tons.....	150.
<b>PUNCHES and SHEARS:</b>	Waterbury-Farrell Rotary Shear, about 16 ga....	\$ 45.
	Mahoning Single End, 32" throat, cap. 1"x1"....	375.
	Covington No. 2 Sgl. End, 12" thrt., cap. 1x1"....	375.
<b>HAMMERS:</b>	25 lb. Bradley Cushioned Helve.....	\$140.
	40 lb. Bradley Cushioned Helve.....	175.
	800 lb. Bement Single Frame Steam Forging....	475.
	2000 lb. Bement-Miles Sgl. Frame. Stm. Forg g.....	1300.
	2000 lb. Bement-Miles Steam Drop.....	475.
<b>SHAPERS:</b>	14" Gould & Eberhardt Single Geared Crank....	\$160.
	24" Cincinnati Back Geared Crank.....	650.
<b>MISCELLANEOUS:</b>	Baler, No. 8 Poston Hopper Door Steel, makes bale 16"x22"x28" weighing 100 lbs.....	\$ 10.
	Bender, Hand Power, Bending Length 12".....	10.
	Chuck, Newton 9", 3-Jaw Independent Steel....	10.
	Engine, Gas, 15 H. P. Fenner Horizontal.....	75.
	Gear Blank Castings, C. I., also face plate and drill press table, lots of 200 lbs.....	6.
	Lathe, Planer and Shaper Steel Turning Tools and Chisels, 100 lbs., lot.....	5.
	Milling Mch. Arbors 28 & 32" long, for both....	15.
	Milling Cutters, assorted sizes, 75, fine condition. 1/2 present new cost.	
	Pipe Folder, 32" hand power for 24 gauge.....	25.
	Pipe Machine, Eaton-Cole-Burnham 1" to 4"....	225.
	Pipe Machine, Eaton-Cole-Burnham 2 1/2 to 8"....	450.
	Planer Chuck, adjustable, will take in work up to 23" wide, 33" long.....	15.
	Salamander for Coke heating, inside dimensions 22"x22"x24", 38" high. Good as new....	15.
	Swaging Machine, Excelsior, cap 3/16".....	75.
	Taps, lot of about 100 miscellaneous, 1/4 to 1 1/2"....	15.
	Vices, 6" Jaw Machinists Bench, plain jaw and plain base, some swivel base, each.....	\$7.50.

**RUSSELL MACHINE CO.,** 1447 Oliver Building Pittsburgh, Pa.

# Good Used Tools

Sensitive Drills—Single & Multiple Spindle.

Upright Drills—20", 24" and 26".

Radial Drills—2', 5' and 6',

Cylinder Grinders—Norton, B. & S., Morse.

Surface Grinders—B. & S.

Lathes—14" to 32".

Millers—Vertical and Horizontal.

Planers—30" and 36".

Presses—Inclinable and Straight Side.

Shapers—16" Steptoe and Queen City.

Screw Machines and Turret Lathes.

## Stocker-Rumely-Wachs Co.

117 N. Jefferson St.,

Chicago, Ill.

## Used Machine Tools

1—42"x42"x12' G. A. Gray Co., Spur-Geared Planer, with two rail heads, power elevator and countershaft for belt drive; fine condition.

1—30" Colburn Vertical Boring Mill, with countershaft arranged for motor drive, with three sets chuck jaws.

1—30" Gisholt Screw Cutting Boring Mill, with change gears, 4-step cone, back gear, double friction countershaft.

1—No. 25 Foote-Burt Heavy Duty Drilling Machine.

1—No. 3 Baker Bros. Keyseating and Slotting Machine, capacity to cut keyways 24" in length by 3" in width, or with chamber hub and extended cutter bars will keyseat 36" long; any work up to 72" in diameter can be chucked with the column in the outside position; largest diameter of cutter bar used 2 7/16".

1—No. 1 Barrett Horizontal Boring Machine, 3 1/2" bar, with two Star facing heads and countershaft.

**THE E. A. KINSEY CO.,** 335 West **CINCINNATI, O.**  
Fourth Street,

**BRANCHES:** INDIANAPOLIS, IND. HAMILTON, OHIO, DAYTON, OHIO,  
LOUISVILLE, KY., COLUMBUS, OHIO

# Real Values—Real Rebuilt Tools

## MILLING MACHINES

No. 4 LeBlond univ., cone pulley.  
No. 3 Standard Cinti univ., sgl. pul.  
No. 3 LeBlond univ., cone pulley.  
No. 2 Hi-Power Cin'ti univ., sgl. pul.  
No. 2 LeBlond univ., cone pulley.  
No. 3-B heavy B. & S. plain, sgl. pul.  
No. 3 Hi-Power Cin'ti pl., sgl. pul.  
No. 3 Kempsmith plain, cone pul.  
No. 3 LeBlond plain, cone pulley.

No. 3 Cincinnati plain, cone pulley.  
No. 2-B heavy B. & S. pl., sgl. pul.  
No. 2 Cincinnati plain, cone pulley.  
No. 2 LeBlond plain cone pulley.  
No. 0 Cincinnati plain, cone pulley.  
No. 6 Whitney hand miller,  
Becker large hand miller.  
No. 22 Garvin vertical, cone pulley.  
No. 5 Becker vertical, cone pulley.

## SHAPERS AND PLANERS

28" Ohio heavy duty bk. grd. crank.  
24" American Tool Works, back geared crank.  
20" Columbia hvy. duty bk. grd. crk.  
16" Barker b. g. crank.

14" Smith & Mills plain crank.  
36"x36"x14" American, two heads.  
36"x36"x10" American, one head.  
30"x30"x 8" Cincinnati, one head.  
30"x30"x 8" Hamilton, one head.

## RADIAL AND UPRIGHT DRILLS

5" N.-B.-P. semi-universal, radial  
3 1/2" American triple purpose radial, speed box.  
3" Bickford plain, speed box.  
3" Amer. T. Wks. pl. radial, cone dr.  
3" Carlton hi-speed sens. radial.  
28" Aurora upright, tapping attach.  
26" W. F. & J. Barnes upright, tap. att.  
26" Cinti-Bickford upright tap. att.  
24" Milwaukee upright.

24" Rockford upright.  
23" Rockford upright tapping attach.  
22" W. F. & John Barnes upright.  
20" Superior upright.  
4-spindle Allen hi-speed sensitive.  
3-spindle Leland-G. hi-speed sens.  
2-spindle H. & W. hi-speed sens.  
2-spindle Superior hi-speed sens.  
Sipp single spindle hi-speed sens.  
3-spindle 26" Barnes gang.

## LATHES

36"x22" Putnam, s. q. triple geared.  
36"x18" Putnam, s. q. triple geared.  
30"x12" LeBlond heavy duty, qk. ch.  
30"x16" H., S. & G. heavy duty, q.c.  
24"x14" Schumacher-B. stand'd c. g.  
22"x12" Rahn & Larmon, qk. chge.  
20"x 8" Cisco heavy duty, qk. chge.

18"x 8" Lodge & Shipley, qk. chge.  
18"x 8" Cincinnati, quick change.  
16"x 8" Hamilton, quick change.  
16"x 6" Pratt & Whitney, qk. chge.  
14"x 6" Monarch, quick change.  
14"x 8" Hamilton tool room, qk. ch., taper, relieving and collet attach.

## TURRET LATHES & SCREW MACHINES

3 1/2"x36" Acme flat turret, grd. head.  
24"x26" P. & W. flat turret, grd. hd.  
24" Gisholt turret, late type, 6 1/2" hole in spindle.  
2" Pratt & Whitney turret, all feeds.

No. 6 Warner & Swasey turret.  
1 1/2" Pratt & Whitney turret.  
No. 4 Bardons & Oliver turret.  
No. 1 B. & S. wire fd. screw mch.  
No. 1 S. P. Garvin screw mch., new.

## GRINDERS

No. 55 Heald cylinder, complete.  
No. 60 Heald cylinder, complete.  
No. 70 Heald internal, complete.  
No. 2 B. & S. surface, mag. chuck.

6"x15" Fitchburg plain.  
Nos. 1 & 2 B. & S. univ. cylindrical.  
No. 2 Ohio universal tool and cutter.  
No. 1 LeBlond univ. tool & cutter.

## GEAR CUTTERS AND HOBBS

No. 4—36" Brown & Sharpe auto.  
No. 3—24" Brown & Sharpe auto.  
24" Gould & Eberhardt automatic.

No. 12 Brown & Sharpe auto. spur and bevel, cap. up to 12".  
18" Gould & Eberhardt gear hobber.

## MISCELLANEOUS

Arbor presses, Greenerd Nos. 4 & 5.  
Bolt cutter, 1 1/2" Acme.  
Bolt threader, 1" Landis.  
Bolt threader 2 1/2" Landis, lead screw.  
Hammer, 40 lb. Bradley rubber c. h.  
Keyseaters, Nos. 1 & 2 Davis.  
Keyseater, No. 3 Baker.

Press, power, No. 4 Ferracute.  
Punch & shear, sgl. end, Long & A.  
Riveting ham's, Nos. 3A & 4A H. S.  
Rivet spinner, 5/16" Grant.  
Shear, power square, 8' Niagara  
No. 196, cap. 18 ga.  
Spot welder, Nat. Elec., 2 pcs. 1/2".

*And many others. Send for our complete list of bargains.*

## EASTERN MACHINERY CO.

No. 408 East Pearl St., Cincinnati, Ohio

All of the above Machines carried in our Stock in Cincinnati.

## Surplus Machine Tools— Rebuilt

CRANE—	10' & 12' span with 2 & 3 ton hoists, comp. (will quote).	
DRILLS—	24" Cincinnati cone drive upright	\$ 150.
	14" Sensitive \$30; 15" sensitive	40.
GRINDERS—	14"x72" Queen City plain cylindrical	1500.
	8" or 10"x30" Queen City plain cylindrical	1000.
LATHES—	20"x10" LeBlond, cone and belt shifter	650.
	18"x 8" LeBlond, cone and belt shifter	500.
	14"x 6" LeBlond, cone and belt shifter	275.
	3"x36" Jones & Lamson bar machine	700.
	3"x36" Jones & Lamson chucking machine	650.
	2½"x24" Jones & Lamson chucking machine	550.
MILLERS—	No. 3 S. P. D. LeBlond, plain, & vertical att.	1000.
	No. 2 Cone LeBlond, plain	500.
	10" Universal, dividing head, LeBlond	100.
PLANERS—	32"x32"x16" Gray (2 rail heads)	2500.
	30"x30"x16" American (2 rail heads)	2000.
	26"x26"x12" Whit-Blais (2 rail heads)	1400.
	Numerous small tools and other equipment for manufacturing and jobbing shop.	
	Various sizes Queen City back geared Crank Shapers and plain Cylindrical Grinders	

**Queen City Machine Tool Co.,** 1401 Sycamore St.  
Cincinnati, Ohio

## Guaranteed Rebuilt Machine Tools

30"x12" Heavy Duty LeBlond  
Lathe, qk. change, double  
back gear.

**Price \$1400.**

36"x36"x14" American Planer.

**Price \$850.**

No. 3B Brown & Sharpe Mill-  
ing Machine, single pulley  
drive.

**Price \$750.**

No. 3 Cincinnati Milling Ma-  
chine, single pulley drive.

**Price \$850.**

36" Fellows Gear Shaper.

**Price \$700.**

No. 4 LeBlond Milling Ma-  
chine, Universal, cone dr.,  
double back gear.

**Price \$850.**

18"x8" Barker Lathe, loose  
change gear.

**Price \$350.**

16" Barker Back Geared Crank  
Shaper.

**Price \$365.**

24" Bullard Rapid Production  
Turret Lathe.

**Price \$800.**

18" Barker Single Geared  
Crank Shaper.

**Price \$200.**

**WM. BARKER & CO.**  
COVINGTON, KY.

# ReMANUFACTURED (ORIGINATED BY US)- MACHINE TOOLS

REG. U. S. PAT. OFF.

Largest stock of high grade machine tools in America. All principal makes and models. Every one guaranteed. Save 25 to 60 per cent on prices.

This is only a partial list. Write for price on any tool you need, whether listed below or not.

## IMMEDIATE DELIVERY

### LATHES

- 14-20"x 8' LeBlond.
- 5-20"x12' American.
- 5-20"x16' American.
- 20-21"x10' LeBlond.
- 10-24"x11' Cisco.
- 1-24"x12' Reed Prentice Grd. Hd.
- 3-24"x12' Providence.
- 1-24"x15' Chard.
- 7-25"x10' LeBlond.
- 10-25"x12' LeBlond.
- 24-26"x10' Canada.
- 10-26"x16' Bridgeford.
- 2-30"-34"x20' American.
- 18-32"x12' Pittsburgh.
- 1-36"x36' Putnam geared head.
- 4-36"x30' Pittsburgh Geared Hd.
- 2-36"x37' Niles Bement Pond.
- 1-51"x20' LeBlond.
- 1-56"-64"x18' Johnston.

### MILLERS

- 5-No. 2 Kempsmith.
- 1-No. 3 Kempsmith Universal.
- 2-No. 2 Rockford.
- 1-No. 2B Rockford Universal.
- 2-No. 28 Ohio.
- 6-No. 2-B Hvy. Brown & Sharpe.
- 4-No. 3 Kempsmith.
- 9-No. 3-B Hvy. Brown & Sharpe.
- 2-No. 4 Cincinnati.
- 2-No. 4 LeBlond.
- 3-No. 4-B Becker.
- 2-No. 3 Cincinnati Vertical.
- 2-No. 4 Cincinnati Vertical.
- 4-No. 5-C Becker.
- 3-No. 6 Becker.

### PLANERS

- 1-24"x24"x 6 American.
- 2-36"x36"x10' Bickett.
- 1-36"x36"x12' Woodward & P.
- 3-36"x36"x18' Cincinnati.
- 3-42"x42"x16' Rockford.
- 1-72"x56"x30' Cincinnati.

### PRESSES

- 1-No. 34 Toledo Solid Back.
- 1-No. 69 Stoll Geared.

### BORING MILLS—Vertical

- 2-24" Bullard "New Era."
- 1-42" Gisholt.
- 1-52" Gisholt.
- 1-60" Pittsburgh.
- 1-62" King.
- 2-72" Cincinnati.
- 7-72" Gisholt.
- 1-84" King.

### BORING MILLS—Horizontal

- 1-3" Foote-Burt.
- 1-No. 6 Giddings & Lewis.
- 1-No. 14 Giddings & Lewis.
- 1-No. 3 Rochester Floor Borer.
- 1-5" Detrich & Harvey Floor Bor.

### DRILL PRESSES

- 1-20" Barnes all geared.
- 2-24" Barnes all geared.
- 2-No. D-2 Colburn.
- 1-No. 24 Foote-Burt.
- 1-No. 25 Foote-Burt.
- 5-No. 310 Baker.
- 1-3-spindle Henry & Wright.

### RADIAL DRILLS

- 1-5' Niles-Bement-Pond.
- 2-7' Western.

### GRINDERS

- 3-6"x18" Landis.
- 12-10"x36" Norton.
- 3-10"x72" Norton.
- 3-12"x26" Modern.
- 11-14"x50" Norton.
- 1-18"-30"x96" Norton Gap.
- 1-20"x96" Landis.

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# Classified Finding Index

**Air Guns**  
Powell Co., Wm., Cincinnati

**Angle Plates**  
Germanow-Simon Mch. Co., Rochester, N.Y.

**Arbors, Solid**  
Nicholson & Co., W. H., Wilkes-Barre, Pa.

**Auto-Cages For Dies**  
Daily Machine Specialties, Inc., 4918 Lincoln Ave., Chicago

**Automatics**  
National Acme Company, Cleveland, O.  
New Britain Machine Co., New Britain, Conn.

**Balancing Ways**  
Anderson Bros. Mfg. Co., Rockford, Ill.  
Rownsheer Co., N. P., South Bend, Ind.

**Balls, Bearing and Burnishing**  
Abbott Ball Co., Hartford, Conn.

**Band Saw Machines, for Metal**  
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Porter-Cable Machine Co., Syracuse, N. Y.

**Barrels, Tumbling**  
Abbott Ball Co., Hartford, Conn.  
Scully-Jones & Co., 2012 W. 13th, Chicago

**Belt Shifters**  
Artisan Mfg. Co., Cincinnati, O.  
Reaner Manufacturing Co., Mercer, Pa.

**Bench Legs, Steel**  
New Britain Mch. Co., New Britain, Conn.

**Bending Machines, Hand and Power**  
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Hendley & Whittemore Co., Beloit, Wis.  
Lewthwaite Mch. Co., T. H. 417 E. 31st, N. Y.  
Lourie Mfg. Co., Springfield, Ill.  
Pedrick Tool & Machine Co., Philadelphia

**Bending Rolls**  
Hendley & Whittemore Co., Beloit, Wis.

**Bolt and Nut Machinery**  
Economy Engineering Co., Willoughby, O.  
Foote-Burr Co., Cleveland, O.

**Boring Bars**  
Pedrick Tool & Machine Co., Philadelphia

**Boring Bars, Cylinder**  
Pedrick Tool & Machine Co., Philadelphia

**Boring, Drilling & Milling Machines**  
Landis Tool Co., Waynesboro, Pa.

**Boring Machines, Horizontal**  
Avey Drilling Machine Co., Cincinnati  
Pedrick Tool & Machine Co., Philadelphia  
Rockford Drilling Machine Co., Rockford, Ill.

**Boring Tools**  
Maxwell Products Co., Cleveland, Ohio.

**Burnishing Equipment, Ball**  
Abbott Ball Co., Elmwood, Conn.

**Bushings, Drill Jig**  
Ex Cell-O Tool & Mfg. Co., Detroit, Mich.

**Case-Hardening Compound**  
Kasenit Company, 2 & 4 Stone St., New York

**Chuckin Machines**  
National Acme Company, Cleveland, O.  
New Britain Mch. Co., New Britain, Conn.  
Springfield Machine Tool Co., Springfield, O.

**Chucks, Collet**  
Ames Co., B. C., Waltham, Mass.  
Hardinge Brothers, Inc., 1770 Bertean Ave., Chicago

**Chucks, Drill**  
Eastern Tube & Tool Co., Inc., 580 Johnson Ave., Brooklyn, N. Y.  
Jacobs Mfg. Co., Hartford, Conn.  
Scully-Jones & Co., 2012 W. 13th, Chicago  
Titan Tool Co., Erie, Pa.

**Chucks, Drill and Tap**  
Peter Bros. Mfg. Co., Algonquin, Ill.  
Scully-Jones & Co., 2012 W. 13th, Chicago

**Chucks, Keyway Cutting**  
Scully-Jones & Co., Ry. Exch. Bldg., Chicago

**Chucks, Magnetic**  
J. & H. Electric Co., Providence, R. I.

**Chucks, Wrenchless**  
Thomas Elevator Co., 31 S. Hoyne Ave., Chicago

**Clamps, Die**  
Daily Machine Specialties, Inc., 4918 Lincoln Ave., Chicago

**Clutches, Friction**  
Conway Clutch Co., Cincinnati, O.  
Edgemont Machine Co., Dayton, O.

**Cold Saws**  
Hurke Machine Tool Co., Cincinnati, Ohio  
Peter Bros. Mfg. Co., Algonquin, Ill.

**Collets**  
Ames Co., B. C., Waltham, Mass.  
Hardinge Brothers, Inc., 1770 Bertean Ave., Chicago

**Contract Work Wanted**  
Burke Machine Tool Co., Cincinnati, O.

**Counterbores and Spot Facers**  
Glensier Co., J. C., Detroit, Mich.

**Couplings, Friction Clutch**  
Conway Clutch Co., Cincinnati, O.

**Cranes, Portable**  
Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
Canton Foundry & Mch. Co., Canton, Ohio

**Crack Pin Turning Machine**  
Pedrick Tool & Machine Co., Philadelphia

**Cutters, Keyseating**  
Davis Keyseater Co., Rochester, N. Y.  
Scully-Jones & Co., 2012 W. 13th, Chicago

**Cutters, Milling**  
Genesee Mfg. Co., Rochester, N. Y.

**Cutting-Off Machines**  
Peter Bros. Mfg. Co., Algonquin, Ill.

**Cylinder Boring Machines, Portable**  
Pedrick Tool & Machine Co., Philadelphia

**Demagnetizers**  
J. & H. Electric Co., Providence, R. I.

**Dial Indicators**  
Federal Products Corp'n, Providence, R. I.

**Die Heads, Threading, Self Opening**  
National Acme Company, Cleveland, O.

**Die Sets**  
Daily Machine Specialties, Inc., 4918 Lincoln Ave., Chicago

**Drill Racks**  
Pearless Machine Co., Hartree, Wis.

## Classified Finding Index

**Drilling Machine Heads, Multiple**  
United States Drill Head Co., Cincinnati

**Drilling Machines, Bench**  
Ames Co., B. C., Waltham, Mass.  
Avey Drilling Machine Co., Cincinnati  
Burke Machine Tool Co., Conneaut, Ohio  
Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Winterhoff Tool & Machine Co., Elkhart, Ind.  
Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Horizontal**  
Rockford Drilling Machine Co., Rockford, Ill.

**Drilling Machines, Multiple Spindle**  
Avey Drilling Machine Co., Cincinnati  
Foots-Hurt Co., Cleveland, O.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Portable Electric**  
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago  
Stow Flexible Shaft Co., Philadelphia, Pa.  
Strand Co., N. A., 5001 N. Lincoln St., Chicago  
Winterhoff Tool & Machine Co., Elkhart, Ind.  
Wisconsin Electric Co., Racine, Wis.

**Drilling Machines, Post**  
Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
Mueller Machine Tool Co., Cincinnati

**Drilling Machines, Radial**  
Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
Mueller Machine Tool Co., Cincinnati  
Taylor & Fenn Co., Hartford, Conn.

**Drilling Machines, Sensitive**  
Avey Drilling Machine Co., Cincinnati  
Burke Machine Tool Co., Conneaut, Ohio  
Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
Foots-Hurt Co., Cleveland, O.  
Leland-Gifford Co., Worcester, Mass.  
Muehlmann, Adolph, Cincinnati, O.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.  
U. S. Machine Tool Co., Cincinnati, O.  
Wisconsin Electric Co., Racine, Wis.

**Drilling Machines, Vertical**  
Avey Drilling Machine Co., Cincinnati  
Canedy-Otto Mfg. Co., Chicago Heights, Ill.  
Foots-Hurt Co., Cleveland, O.  
Leland-Gifford Co., Worcester, Mass.  
Oesterlein Machine Co., Cincinnati, O.  
Rockford Drilling Machine Co., Rockford, Ill.  
Sigourney Tool Co., Hartford, Conn.  
Taylor & Fenn Co., Hartford, Conn.

**Drills, Twist**  
Cleveland Twist Drill Co., Cleveland, O.

**Dust Handling Equipment**  
Kalkreuth Co., Jackson, Mich.

**Emery Wheel Dressers and Cutters**  
Precision Truing Machine & Tool Co., Cincinnati, O.  
Taylor & Fenn Co., Hartford, Conn.  
Western Tool & Mfg. Co., Springfield, O.

**Feeders, Oil and Soda Water**  
New Britain Machine Co., New Britain, Conn.

**Filing Machines, Die**  
Ames Co., B. C., Waltham, Mass.

**Filing Room Equipment**  
Wardwell Mfg. Co., Cleveland, O.

**Flexible Shafts**  
Strand Co., N. A., 5001 N. Lincoln St., Chicago

**Forges**  
Canedy-Otto Mfg. Co., Chicago Heights, Ill.

**Forgings, Hollow Bored**  
American Hollow Boring Co., Erie, Pa.

**Furniture, Machine Shop**  
New Britain Machine Co., New Britain, Conn.  
Western Tool & Mfg. Co., Springfield, O.

**Gauges, Dial**  
Ames Co., B. C., Waltham, Mass.  
Federal Products Corp'n, Providence, R. I.

**Gauges, Piston and Piston Ring**  
Federal Products Corp'n, Providence, R. I.

**Gauges, Thread**  
Federal Products Corp'n, Providence, R. I.

**Gears**  
Boston Gear Works Sales Company, Norfolk Downs, Mass.

**Grinding Machines, Belt**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Peerless Surfacing Machine Co., Troy, N. Y.

**Grinding Machines, Bench**  
Rodine Electric Co., 2256 W. Ohio St., Chicago  
Gallmeyer & Livingston Co., Grand Rapids, Mich.

**Grinding Machines, Cutter, Reamer and Tool**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Landis Tool Co., Waynesboro, Pa.  
LeBlond Mch. Tool Co., B. K., Cincinnati, O.  
Oesterlein Machine Co., Cincinnati, O.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Norman Co., Grand Rapids, Mich.

**Grinding Machines, Cylindrical**  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Landis Tool Co., Waynesboro, Pa.  
Thompson Grinder Co., Springfield, Ohio

**Grinding Machines, Die**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Norman Co., Grand Rapids, Mich.

**Grinding Machines, Disc**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Porter Cable Machine Co., Syracuse, N. Y.

**Grinding Machines, Drill**  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
LeSalle Tool Co., LeSalle, Ill.  
Wilmarth & Norman Co., Grand Rapids, Mich.

**Grinding Machines, Face**  
Taylor & Fenn Co., Hartford, Conn.

**Grinding Machines, Internal**  
Landis Tool Co., Waynesboro, Pa.  
Taylor & Fenn Co., Hartford, Conn.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Norman Co., Grand Rapids, Mich.

**Grinding Machines, Portable Electric**  
Rodine Electric Co., 2256 W. Ohio St., Chicago  
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago  
Porter-Cable Machine Co., Syracuse, N. Y.  
Service Tool, Die & Mfg. Co., 2256 Walnut Street, Chicago  
Stow Flexible Shaft Co., Philadelphia, Pa.  
Strand Co., N. A., 5001 N. Lincoln St., Chicago  
Wisconsin Electric Co., Racine, Wis.



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# Classified Finding Index

## Grinding Machines, Snagging

Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Jarecki Mch. & T. Co., Grand Rapids, Mich.

## Grinding Machines, Surface

Gallmeyer & Livingston Co., Grand Rapids, Mich.  
La Salle Tool Co., La Salle, Ill.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Morman Co., Grand Rapids, Mich.

## Grinding Machines, Tap

Gallmeyer & Livingston Co., Grand Rapids, Mich.

## Grinding Machines, Tool

Taylor & Fenn Co., Hartford, Conn.

## Grinding Machines, Universal

Gallmeyer & Livingston Co., Grand Rapids, Mich.  
Landis Tool Co., Waynesboro, Pa.  
Thompson Grinder Co., Springfield, Ohio  
Wilmarth & Morman Co., Grand Rapids, Mich.

## Hack Saw Blades

Peerless Machine Co., Racine, Wis.

## Hack Saw Machines

Armstrong-Blum Mfg. Co., 341 N. Francisco  
Av., Chicago  
Peerless Machine Co., Racine, Wis.  
Racine Tool & Machine Co., Racine, Wis.

## Hammers, Air

Independent Pneumatic Tool Co., 600 W.  
Jackson Blvd., Chicago

## Hammers, Riveting

Independent Pneumatic Tool Co., 600 W.  
Jackson Blvd., Chicago

## Hoists

Ford Chain Block Co., Philadelphia, Pa.  
Thomas Elevator Co., 31 S. Hoyne Ave.,  
Chicago

## Hoists, Portable

Canton Foundry & Machine Co., Canton, Ohio

## Keyseating Machines

Burr & Son, John T., Brooklyn, N. Y.  
Chattanooga Mch. Co., Chattanooga, Tenn.  
Davis Keyseater Co., Rochester, N. Y.  
National Machine Tool Co., Cincinnati

## Lathe Accessories and Attachments

Cisco Machine Tool Co., Cincinnati, O.  
Maxwell Products Co., Cleveland, Ohio  
Sidney Machine Tool Co., Sidney, O.

## Lathe Turrets

Maxwell Products Co., Cleveland, Ohio.

## Lathe, Automatic Turret

National Acme Company, Cleveland, O.

## Lathe, Bench

Ames Co., B. C., Waltham, Mass.  
Hardinge Brothers, Inc., 1770 Berteau Ave.,  
Chicago  
Monarch Machine Tool Co., Sidney, O.

## Lathe, Engine

Boye & Emmes Mch. Tool Co., Cincinnati, O.  
Carroll Mch. Tool Co., A. V., Cincinnati, O.  
Cincinnati Lathe & Tool Co., Cincinnati, O.  
Cisco Machine Tool Co., Cincinnati, O.  
Hardinge Brothers, Inc., 1770 Berteau Ave.,  
Chicago  
LeBlond Mch. Tool Co., B. K., Cincinnati, O.  
Monarch Machine Tool Co., Sidney, O.  
Mueller Machine Tool Co., Cincinnati, O.  
Porter-Cable Machine Co., Syracuse, N. Y.  
Sebastian Lathe Co., Cincinnati, O.  
Sidney Machine Tool Co., Sidney, O.  
Springfield Machine Tool Co., Springfield, O.

## Lathe, Extension Bed Gap

Rahn-Larson Co., Cincinnati, O.

## Lathe, Fox Monitor

Harker Co., Wm., Covington, Ky.

## Lathe, Gap

Carroll Mch. Tool Co., A. V., Cincinnati, O.

## Lathe, Short Bed

Artisan Mfg. Co., Cincinnati, O.  
Monarch Machine Tool Co., Sidney, O.  
Porter-Cable Machine Co., Syracuse, N. Y.  
Sidney Machine Tool Co., Sidney, O.

## Lathe, Turret

Monarch Machine Tool Co., Sidney, O.

## Mandrels, Expanding

Nicholson & Co., W. H., Wilkes-Barre, Pa.  
Western Tool & Mfg. Co., Springfield, O.

## Mandrels, Solid

Nicholson & Co., W. H., Wilkes-Barre, Pa.

## Milling Attachments

Burke Machine Tool Co., Conneaut, Ohio  
LeBlond Mch. Tool Co., B. K., Cincinnati, O.  
Oesterlein Machine Co., Cincinnati, O.  
Porter-Cable Machine Co., Syracuse, N. Y.  
Taylor & Fenn Co., Hartford, Conn.

## Milling Machine Spacing Washers

Maxwell Products Co., Cleveland, Ohio.

## Milling Machines, Bench

Ames Co., B. C., Waltham, Mass.  
Burke Machine Tool Co., Conneaut, Ohio

## Milling Machines, Hand

Burke Machine Tool Co., Conneaut, Ohio  
U. S. Machine Tool Co., Cincinnati, O.

## Milling Machines, Horizontal

Oesterlein Machine Co., Cincinnati, O.

## Milling Machines, Plain

Burke Machine Tool Co., Conneaut, Ohio  
Gallmeyer & Livingston Co., Grand Rapids, Mich.  
LeBlond Mch. Tool Co., B. K., Cincinnati, O.

## Milling Machines, Portable

Pedrick Tool & Machine Co., Philadelphia

## Milling Machines, Spline

Taylor & Fenn Co., Hartford, Conn.

## Milling Machines, Universal

LeBlond Mch. Tool Co., B. K., Cincinnati, O.

## Milling Machines, Vertical

Burke Machine Tool Co., Conneaut, Ohio  
LeBlond Mch. Tool Co., B. K., Cincinnati, O.  
Taylor & Fenn Co., Hartford, Conn.

## Mills, Adjustable Hollow

Genesee Mfg. Co., Rochester, N. Y.

## Motors, Electric

Reliance Electric & Eng. Co., Cleveland  
Winconsin Electric Co., Racine, Wis.

## Nuts, Plain or Castellated

National Acme Company, Cleveland, O.

## Oil Cups

Gits Bros. Mfg. Co., 1940 S. Kilbourn Ave.,  
Chicago

## Oil Extractors

Barrett Co., Leon J., Worcester, Mass.  
Tolhurst Machine Works, Troy, N. Y.

## Pattern Shop Machinery

Towsley Mfg. Co., John T., Cincinnati

## Pins, Leader And Dowel

Daily Machine Specialties, Inc., 4913 Lincoln  
Ave., Chicago

# Classified Finding Index

**Pipe Bending Machines**  
Pedrick Tool & Machine Co., Philadelphia

**Pipe Cutting and Threading Machines**  
Chicago Pipethread Co., Racine, Wis.

**Piston Machines**  
National Acme Company, Cleveland, O.

**Piston Ring Machines**  
National Acme Company, Cleveland, O.

**Planers, Openside**  
Cleveland Planer Co., Cleveland, O.

**Planers, Valve Seat, Portable**  
Pedrick Tool & Machine Co., Philadelphia

**Polishing and Buffing Machines**  
Cisco Machine Tool Co., Cincinnati, O.  
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago  
New Britain Machine Co., New Britain, Conn.  
Wilmarth & Morman Co., Grand Rapids, Wis.  
Wisconsin Electric Co., Racine, Wis.

**Presses, Arbor**  
Atlas Press Co., Kalamazoo, Mich.  
Lourie Mfg. Co., Springfield, Ill.  
Nicholson & Co., W. H., Wilkes-Barre, Pa.

**Presses, Broaching**  
Lourie Mfg. Co., Springfield, Ill.

**Presses, Foot**  
Rockford Iron Works, Rockford, Ill.  
Taylor & Fenn Co., Hartford, Conn.

**Presses, Power**  
Hendley & Whittemore Co., Beloit, Wis.  
Lourie Mfg. Co., Springfield, Ill.  
Rockford Iron Works, Rockford, Ill.

**Presses, Punch**  
LaSalle Machine Works, 3013 S. LaSalle St., Chicago  
Lewthwaite Mch. Co., T. H., 417 E. 31st St., N. Y.  
Lourie Mfg. Co., Springfield, Ill.  
Rockford Iron Works, Rockford, Ill.

**Presses, Screw**  
Jarecki Mch. & T. Co., Grand Rapids, Mich.  
Lourie Mfg. Co., Springfield, Ill.  
Fowles Mfg. Co., John T., Cincinnati

**Pulley Machinery**  
Avey Drilling Machine Co., Cincinnati

**Pulleys, Iron, Solid and Split**  
Conway Clutch Co., Cincinnati, O.

**Pumps, Lubricant**  
Ruthman Machinery Co., Cincinnati, O.

**Punch Press Feeds**  
Rockford Iron Works, Rockford, Ill.

**Punch, Shear and Bender, Hand**  
Armstrong Blum Mfg. Co., 341 N. Francisco Ave., Chicago

**Punches, Hand**  
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Hendley & Whittemore Co., Beloit, Wis.  
Lewthwaite Mch. Co., T. H., 417 E. 31st St., New York  
Whitney Metal Tool Co., Rockford, Ill.

**Punches, Power**  
Hendley & Whittemore Co., Beloit, Wis.

**Punches and Dies**  
Hendley & Whittemore Co., Beloit, Wis.  
Lewthwaite Mch. Co., T. H., 417 E. 31st St., N. Y.  
Rockford Iron Works, Rockford, Ill.

**Racks, Bar Stock**  
New Britain Machine Co., New Britain, Conn.

**Reamers**  
Cleveland Twist Drill Co., Cleveland, O.

**Reamer Holders**  
Nicholson & Co., W. H., Wilkes-Barre, Pa.

**Reels, Extension**  
Cincinnati Specialty Mfg. Co., Cincinnati, O.

**Riveting Machines**  
Grant Mfg. & Mch. Co., Bridgeport, Conn.

**Rod Cutters**  
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago  
Hendley & Whittemore Co., Beloit, Wis.  
Lewthwaite Mch. Co., T. H., 417 E. 31st St., N. Y.

**Saw Sharpening Machines**  
Wardwell Mfg. Co., Cleveland, O.

**Scraping Machines, Hand & Pneumatic**  
Anderson Brothers Mfg. Co., Rockford, Ill.

**Screw Driving Machines, Automatic**  
Reynolds Machine Co., Massillon, Ohio

**Screw Machine Products**  
National Acme Company, Cleveland, O.

**Screw Machines, Automatic**  
National Acme Company, Cleveland, O.  
New Britain Mch. Co., New Britain, Conn.

**Screws**  
Economy Screw Corporation, 5213 Ravenswood Ave., Chicago  
National Acme Company, Cleveland, O.

**Second-Hand Machinery**  
Baker, J. C., Columbus, O.  
Barker & Co., Wm., Covington, Ky.  
Bath & Co., Cyril J., Cleveland, O.  
Bennett Mch. Co., 50 Church St., New York  
Botwinik Brothers, New Haven, Conn.  
Brown Machinery Co., St. Louis, Mo.  
Brownell Machinery Co., Providence, R. I.  
Cincinnati Automatic Mch. Co., Cincinnati  
Cincinnati Lathe & Tool Co., Cincinnati, O.  
Cincinnati Machinery & Supply Co., Cincinnati, O.  
Clark Machinery Co., Cleveland, O.  
Clinton Mch. Co., 128 S. Clinton, Chicago  
Co-operative Machinery Co., Cleveland, O.  
Donahue Steel Products Co., 294 N. Jefferson St., Chicago  
Eastern Machinery Co., Cincinnati, O.  
Empire Machinery Exchange Company, Inc., Cleveland, Ohio  
Essley Machinery Co., E. L., 555 Washington Blvd., Chicago  
Fitzsimmons-Cole Mch. Co., Pittsburgh, Pa.  
Foster Machinery Co., Cleveland, O.  
Hastien & Co., J. E., Inc., 50 Church St., New York  
Harris Bros. Co., 35th & Iron, Chicago  
Hill, Clarke & Co., 649 W. Washington Blvd., Chicago  
Hill, Clarke & Co., Inc., Boston, Mass.  
Hyman & Sons, Joseph, Philadelphia  
Industrial Plants Corporation, 25 Church St., New York  
Johnson & Sons Machinery Co., Wm. Co., St. Louis, Mo.  
Jones Machine Tool Co., Cincinnati, O.  
Kinsey Co., E. A., Cincinnati, O.  
Lucas & Son, J. L., Inc., Bridgeport, Conn.  
Little Co., W. P., Cleveland  
McCabe Lathe & Machinery Corp., J. J., 149 Broadway, New York  
McCoy-Brandt Mch. Co., Pittsburgh, Pa.  
McDonald Machinery Co., St. Louis  
McMullen Mch. Co., Grand Rapids, Mich.  
Marr-Galbreath Mch. Co., Pittsburgh, Pa.  
Marshall & Huschart Machinery Co., 17 S. Jefferson St., Chicago

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### Second-Hand Machinery—Continued

Mid-West Machine Tool & Supply Co.,  
Davenport, Ia.  
Molitor Machy. Co., Chas., 118 S. Clinton St.,  
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Moray and Co., Inc., 408 Broome St., N. Y.  
Morris Machine Tool Co., Cincinnati, O.  
Mott & Merryweather Machinery Company,  
Cleveland, O.  
Niles-Bement-Pond Co., 111 Broadway, N. Y.  
Norton-Broadway Mch. Co., Cincinnati, O.  
O'Brien Machinery Co., Philadelphia  
Oliver Chilled Plow Works, South Bend, Ind.  
Osborne & Sexton Machy. Co., Columbus, O.  
Orvitt & Co., D. C., Cleveland, O.  
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Peninsular Machinery Co., Detroit, Mich.  
Queen City Machine Tool Co., Cincinnati, O.  
Reeve-Frith Co., 37 S. Desplaines, Chicago  
Reliance Mch. Sales Co., Pittsburgh, Pa.  
Rosenfeld Machinery Co., 942 W. Lake St.,  
Chicago  
Russell Machine Co., Pittsburgh, Pa.  
Saltzman, B. L., 824 W. Van Buren Street,  
Chicago  
Scott-Danbach Mch. Co., 130 S. Clinton,  
Chicago  
Simmons Machine Tool Corp., Albany, N. Y.  
Smith Machinery Co., H. A., Syracuse, N. Y.  
Star Foundry Co., Albert Lea, Minn.  
Stocker-Rumely-Wachs Co., 117 N. Jefferson  
St., Chicago  
Stoehr Mch. Co., A. M., 844 N. Wells St.,  
Chicago  
Strafer, A. F., 30 Church St., New York  
Strong, Carlisle & Hammond Co., Cleveland  
Syracuse Supply Co., Syracuse, N. Y.  
Tabor, Velick & Co., Inc., Lake & Desplaines  
Sta., Chicago  
Washburn Co., 6126 S. LaSalle, Chicago  
Wertman, M. A., Cleveland, O.  
White Machy. Co., A. D., 108 N. Jefferson  
St., Chicago  
Whitman & Barnes Mfg. Co., Akron, O.  
Will-Murt Co., Orville, Ohio  
Winterer, Herman L., Philadelphia

### Shafts, Flexible

Stow Flexible Shaft Co., Philadelphia, Pa.

### Shafts, Steel

American Hollow Boring Co., Erie, Pa.

### Shaping Machines

Osborne & Sexton Machy. Co., Columbus, O.  
Rhodes Mfg. Co., Hartford, Conn.  
Smith & Mills Co., Cincinnati  
Springfield Machine Tool Co., Springfield, O.

### Shears, Hand

Armstrong-Bloom Mfg. Co., 841 N. Francisco  
Av., Chicago  
Hendley & Whittemore Co., Beloit, Wis.  
Lowthwaite Machine Co., T. H., 417 E. 31st  
St., New York  
Whitney Metal Tool Co., Rockford, Ill.

### Shears, Power

Hendley & Whittemore Co., Beloit, Wis.

### Shutting Machines

Rhodes Mfg. Co., Hartford, Conn.

### Spacing Washers

Detroit Stamping Co., Detroit, Mich.

### Spindles, Grinding

Ex-Cell-O Tool & Mfg. Co., Detroit, Mich.

### Spindles, Air Driven, High Speed

Ex-Cell-O Tool & Mfg. Co., Detroit, Mich.

### Stools and Chairs, Factory

Chicago Wire Chair Co., 619 N. La Salle St.,  
Chicago

### Straightening Machines

Springfield Machine Tool Co., Springfield, O.  
Towley Mfg. Co., John T., Cincinnati  
Whitney Metal Tool Co., Rockford, Ill.

### Tap Extractors

Walton Co., Hartford, Conn.

### Tapping Machines and Attachments

Alto Mfg. Co., 1647 Wellman St., Chicago  
Avery Drilling Machine Co., Cincinnati  
Burke Machine Tool Co., Cincinnati, Ohio  
Eastern Tube & Tool Co., Inc., 680 Johnson  
Ave., Brooklyn, N. Y.  
Leland-Gifford Co., Worcester, Mass.  
Whitney Metal Tool Co., Rockford, Ill.

### Taps, Threading, Collapsing

National Acme Company, Cleveland, O.

### Thread Milling Attachments

Cisco Machine Tool Co., Cincinnati, O.

### Threading Tools

Armstrong Bros. Tool Co., 808 N. Francisco  
Av., Chicago  
Hart Mfg. Co., Cleveland, O.

### Tool Holders

Armstrong Bros. Tool Co., 808 N. Francisco  
Av., Chicago  
Western Tool & Mfg. Co., Springfield, O.

### Tool Racks

Chicago Wire Chair Co., 619 N. La Salle St.,  
Chicago

### Tools, Boring

Armstrong Bros. Tool Co., 808 N. Francisco  
Av., Chicago

### Tools, Lathe and Planer

Armstrong Bros. Tool Co., 808 N. Francisco  
Av., Chicago

### Tools, Machinists'

Armstrong Bros. Tool Co., 808 N. Francisco  
Av., Chicago

### Tools, Spot Facing

Gessner Mfg. Co., Rochester, N. Y.

### Travellers, I-Beam

Ford Chain Block Co., Philadelphia, Pa.

### Trucks, Machine Shop

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Towley Mfg. Co., John T., Cincinnati

### Turtables

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### Universal Joints

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Horgeson Mfg. Co., Inc., Torrington, Conn.  
Boston Gear Works Sales Company, Norfolk  
Downs, Mass.

### Valve Grinders

Independent Pneumatic Tool Co., 600 W.  
Jackson Blvd., Chicago

### Valves

Fowell Co., Wm., Cincinnati

### Vises, Drilling Machine

Armstrong-Bloom Mfg. Co., 841 N. Francisco  
Av., Chicago  
Armstrong Bros. Tool Co., 808 N. Francisco  
Av., Chicago  
Germanow-Simon Mch. Co., Rochester, N. Y.  
Thomas Elevator Co., 31 S. Hoyne Ave.,  
Chicago

### Vises, Machinists'

New Britain Machine Co., New Britain, Conn.  
Western Tool & Mfg. Co., Springfield, O.

### Vises, Milling Machine

Germanow-Simon Mch. Co., Rochester, N. Y.

### Wood Working Machinery

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